Appendix A

Air Quality and Greenhouse Gas Analysis Report

Mitchell Air Quality Consulting

Air Quality and Greenhouse Gas Analysis Report
Bamiyan Marketplace
Lake Elsinore, California

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BAU	Business as Usual
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO_2	carbon dioxide
District	South Coast Air Quality Management District
DPM	diesel particulate matter
EMFAC	EMission FACtors Model
EPA	United States Environmental Protection Agency
GHG Rx	Greenhouse Gas Reduction Exchange
GHG(s)	greenhouse gas(es)
HAP	hazardous air pollutant
HRA	health risk assessment
IPCC	United Nations Intergovernmental Panel on Climate Change
MAQC	Mitchell Air Quality Consulting
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
$MTCO_2e$	metric tons of carbon dioxide equivalent
NO_X	nitrogen oxides
PM_{10}	particulate matter less than 10 microns in diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
ppb	parts per billion
ppm	parts per million
ROG	reactive organic gases
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_X	sulfur oxides
VOC	volatile organic compounds

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SECTION 1: EXECUTIVE SUMMARY

1.1—Purpose and Methods of Analysis

The following air quality and greenhouse gas (GHG) analysis was prepared to evaluate whether the estimated criteria air pollutants, toxic air contaminants (TACs), and GHG emissions generated from the development of Bamiyan Marketplace Mixed Use Project (project) would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the SCAQMD Air Quality Analysis Handbook for quantification of emissions and evaluation of potential impacts to air resources (SCAQMD 2019).

1.2—Project Description

The project site is located in the City of Lake Elsinore, California on the northwest corner of Grand Avenue and State Route 74. It is located one block west of the Lake Elsinore shoreline within the City of Lake Elsinore. The Assessor Parcel Numbers (APNs) for the project are 381-320-023 and 381-320-020. The two parcels total approximately 12.56 acres.

The proposed project, known as Bamiyan Marketplace (Option 11 Site Plan), consists of the construction of a mixed-use development on a 12.56-acre lot. The net area for the project is 11.85 acres. The project will be constructed in three phases. Phase 1 consists of the construction of a 6,326-square-foot convenience store plus restaurant, a gas station, an automatic car wash, and three fast-food restaurants (each with an area of 2,400 square feet). Car wash and vacuum equipment are currently anticipated to be operational between the hours of 8 a.m. and 5 p.m. during Pacific Standard Time and 8 a.m. to 7 p.m. during Pacific Daylight Time. The car wash will be staffed during operating hours. The convenience store and associated restaurant will be open from 5 a.m. to 10 p.m. daily, with the gas station operational 24 hours a day. Each of the three fast-food restaurants will have operational lobbies from 5 a.m. to 10 p.m. daily, and drive-thru service will operate 24 hours a day.

Phase 2 consists of the construction of a mixed-use building to include 19,537 square feet of retail space and 17,200 square feet of residential space (14 units). Phase 3 consists of the construction of a 66-unit multi-family residential development in four buildings, each three stories in height, plus a 1,895-square-foot clubhouse.

The project site is surrounded by vacant or commercial uses to the north and east (across Grand Avenue and Ortega Highway, respectively), and single-family residential uses to the south and west (across Macy Street).

The project's regional vicinity location is shown in Figure 1; an aerial view of the local vicinity is provided in Figure 2; and the Site Plan is provided in Figure 3.

1.3—Summary of Analysis Results

The following is a summary of the analysis results. As shown below, the project would result in less than significant impacts for all air quality and GHG impact criteria analyzed.

Impact AIR-1: The project may conflict with or obstruct implementation of the applicable air quality plan. **Less than significant impact with mitigation.**

Impact AIR-2: The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors). **Less than significant impact.**

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations. **Less than significant impact.**

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people. **Less than significant impact.**

Impact GHG-1: The project would not generate direct or indirect greenhouse gas emissions that would result in a significant impact on the environment. **Less than significant impact.**

Impact GHG-2: The project would not conflict with any applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact**.

Impact ENERGY-1: The project would not result in potentially significant environmental impacts due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. **Less than significant impact.**

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **Less than significant impact.**

1.4—Standard Conditions and Mitigation Measures Applied to the Project

The project includes mitigation measures to ensure compliance with South Coast Air Quality Management District (SCAQMD) regulations pertaining to controlling fugitive dust during construction activities.

MM AIR-1a During site preparation and grading construction phases, all haul trucks transporting soil to or from the project site shall be covered to prevent fugitive dust emissions.

MM AIR-1b During project construction, the following measures shall be implemented to the satisfaction of the City of Lake Elsinore. Construction equipment maintenance records and data sheets of equipment design specifications

(including the emission control tier of the equipment) shall be kept on-site during construction and subject to inspection by the City of Lake Elsinore.

a) Construction equipment shall be properly maintained according to manufacturer specifications.
b) All contractors shall turn off all construction equipment and delivery vehicles when not in use, or limit on-site idling for no more than 5 minutes in any one hour.
c) On-site electrical hook ups to a power grid shall be provided for electric construction tools, including saws, drills, and compressors, where feasible, to reduce the need for diesel-powered electric generators.
d) The project shall demonstrate compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Lake Elsinore.
e) Traffic speeds on all unpaved portions of the project site shall be reduced to 15 miles per hour or less.
f) Sweep streets at the end of the day if visible soil is carried onto adjacent public paved roads (recommend water sweepers with reclaimed water).
g) Use street sweepers that comply with SCAQMD Rules 1186 and 1186.1.

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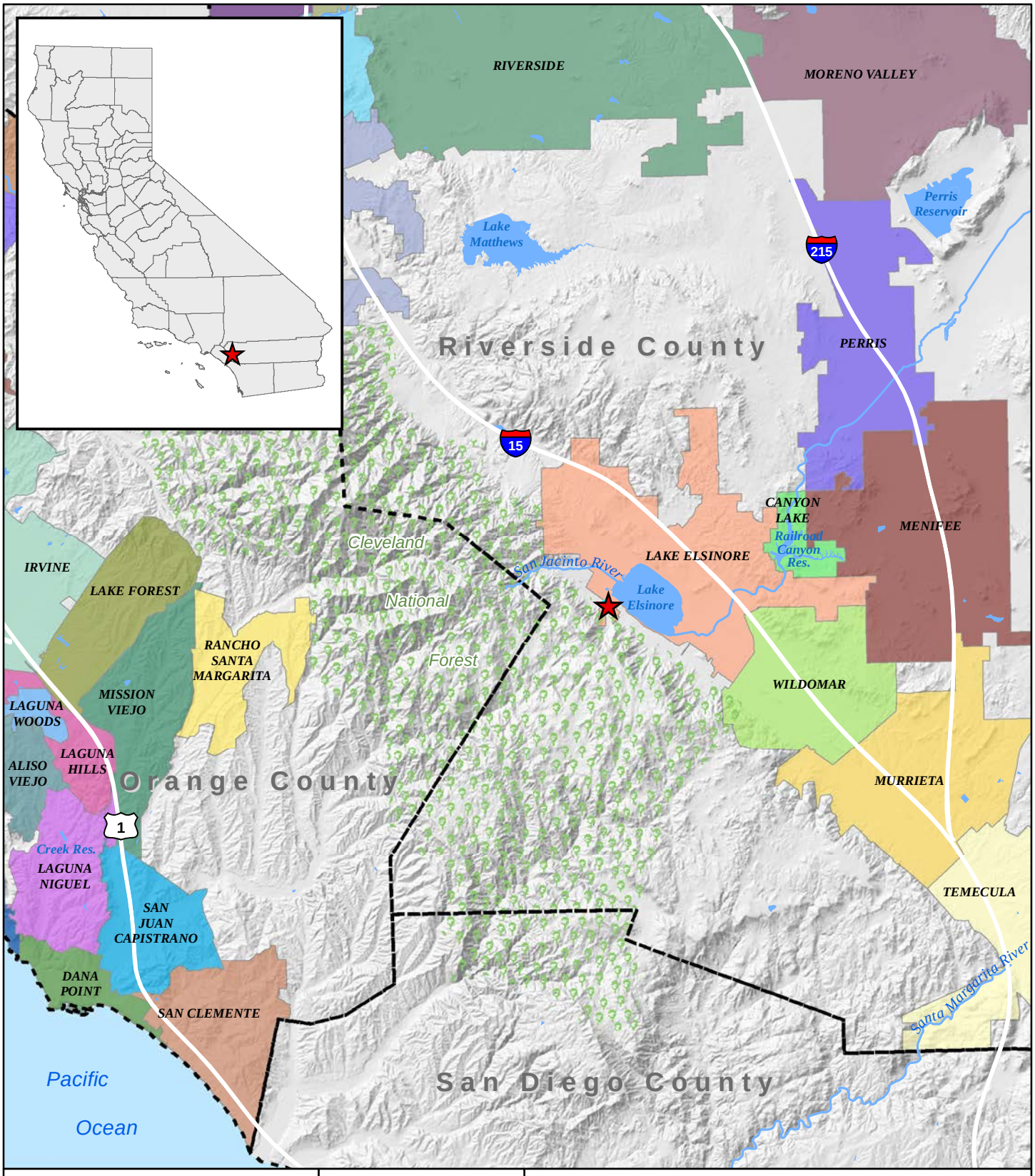

Legend

- Project Location
- County Boundary

Sources: Riverside County, Orange County, USFS.
Map date: May 1, 2019.

NORTH

0 2 4

Miles

1:300,000

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Figure 1. Regional Location Map

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Legend

Project Boundary

NORTH

0 500 1,000

Feet

Source: Riverside County GIS; ArcGIS Online World Imagery Map Service; Google Maps. Map date: May 1, 2019.

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Figure 2. Vicinity Map

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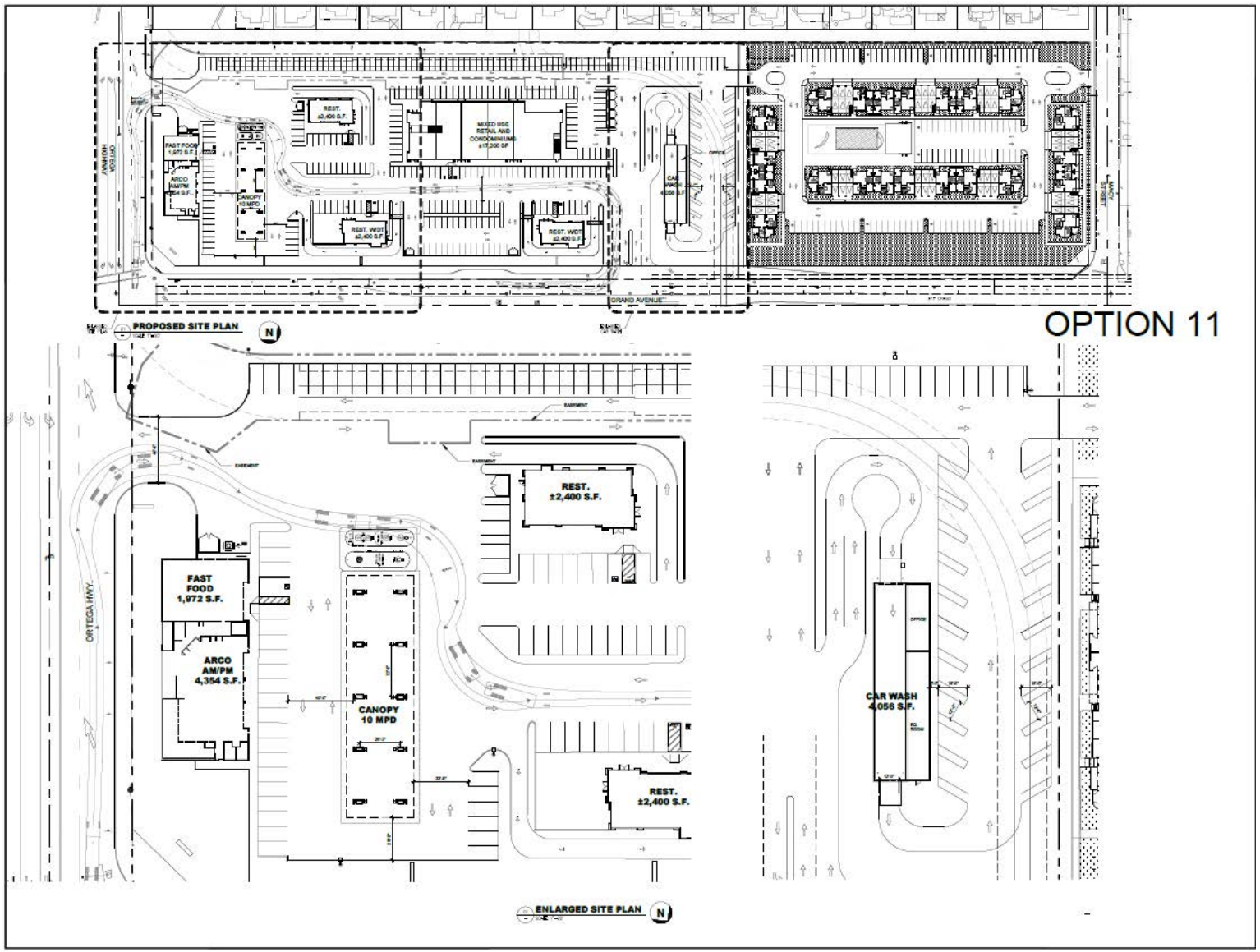
BAMIYAN MARKETPLACE, LAKE ELSINORE, CALIFORNIA

Figure 3. Site Plan



0 100 200
Feet

Source: AGC Design Concept, Inc., Proposed Site Plan, CUP-1. Map date: June 14, 2019.

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SECTION 2: AIR QUALITY SETTING

2.1—Environmental Setting

Air quality impacts are both local and regional. Regional and local air quality is impacted by topography, dominant airflows, atmospheric inversions, location, and season. The project is located in the South Coast Air Basin (SoCAB or Air Basin), which experiences some of the most challenging environmental conditions for air quality in the nation. The following section describes these conditions as they pertain to the Air Basin. The information in this section is primarily from the City of Lake Elsinore General Plan Update Draft Program Environmental Impact Report (PEIR) (Lake Elsinore 2011a).

2.1.1 - South Coast Air Basin

Topography

The project is located in the County of Riverside and within the South Coast Air Basin (Air Basin). The San Gabriel, San Bernardino, and San Jacinto Mountains bound the Air Basin on the west, north, and east. The southern limit of the Air Basin is the San Diego County line. The Air Basin consists of Orange County, Los Angeles County (except for the Antelope Valley), the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County

Climate

The topography and climate of southern California combine to create an area of high air pollution potential in the SoCAB. During the summer months, a warm air mass frequently descends over the cool, moist marine layer, forming a cup over the cool marine layer that prevents polluted air from dispersing upward. This inversion allows pollutants to accumulate in the lower layer. Light winds during the summer further limit ventilation, exacerbating the concentration of pollutants.

The low average wind speeds in the summer and a persistent daytime temperature inversion create an opportunity for emissions of hydrocarbons and oxides of nitrogen to combine with sunlight in a complex series of reactions. These reactions produce a photochemical oxidant commonly known as smog. Because the SoCAB experiences more days of sunlight than any other major urban areas in the United States except Phoenix, Arizona, the smog potential in the region is higher than in most other areas of the nation.

The major factors affecting local air pollution conditions in the planning area itself are the extent and types of both region-wide and local emissions, climate, and meteorology. The general climate of Lake Elsinore is characterized by sparse winter rainfall and hot summers tempered by cool ocean breezes. The climate in and around Lake Elsinore, as well as most of southern California, is controlled largely by the strength and position of the subtropical high-pressure cell over the Pacific Ocean. This high-pressure cell produces a typical Mediterranean climate with warm summers, mild winters, and moderate rainfall. This pattern is infrequently interrupted by periods of extremely hot weather brought in by Santa Ana winds originating in the desert. Most of the area's precipitation occurs intermittently between November and April, but the area is still dominated by sunny or partly sunny conditions during these months. Cyclic land and sea breezes are the primary factors affecting the region's mild

climate. Daytime winds are normally sea breezes, predominantly from the west, that flow at relatively low velocities.

The Elsinore Convergence Zone, the zone where the two major airstreams in western Riverside County meet, acts as an invisible boundary, obstructing much of the inland basin air pollutants from continuing south beyond the Lake Elsinore area. Coastal winds in the Elsinore Convergence Zone are the primary factor in the obstruction and allow air pollutants to be dispersed just south of the convergence zone, but they also allow their accumulation in the Lake Elsinore area, including surrounding communities to the north and east (Lake Elsinore 2011).

2.2—Regulatory Setting

Air pollutants are regulated to protect human health and for secondary effects such as visibility and building soiling. The Clean Air Act of 1970 tasks the United States Environmental Protection Agency (EPA) with setting air quality standards. The State of California also sets air quality standards, which are in some cases more stringent than federal standards, in addition to addressing additional pollutants. The following section describes these federal and state standards and the health effects of the regulated pollutants.

2.2.1 - Clean Air Act

Congress established much of the basic structure of the Clean Air Act (CAA) in 1970, and made major revisions in 1977 and 1990. Six common air pollutants (also known as criteria pollutants) are addressed in the CAA: particulate matter, ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. The EPA labels these pollutants as criteria air pollutants because they are regulated by developing human health-based and/or environmentally based criteria (science-based guidelines), which sets permissible levels. The set of limits based on human health are called primary standards. Another set of limits intended to prevent environmental and property damage are called secondary standards (EPA 2014). The federal standards are called National Ambient Air Quality Standards (NAAQS). The air quality standards provide benchmarks for determining whether air quality is healthy at specific locations and whether development activities will cause or contribute to a violation of the standards. The criteria pollutants are:

- Ozone
- Nitrogen dioxide (NO_2)
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the EPA is tasked with updating the standards as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health (ARB 2016a).

2.2.2 - California Clean Air Act

The California Legislature enacted the California Clean Air Act (CCAA) in 1988 to address air quality issues of concern not adequately addressed by the federal CAA at the time. California's air quality problems were and continue to be some of the most severe in the nation, and required additional

actions beyond the federal mandates. The California Air Resources Board (ARB) administers California Ambient Air Quality Standards (CAAQS) for the 10 air pollutants designated in the CCAA. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The EPA authorized California to adopt its own regulations for motor vehicles and other sources that are more stringent than similar federal regulations implementing the CAA. Generally, the planning requirements of the CCAA are less stringent than the federal CAA; therefore, consistency with the CAA will also demonstrate consistency with the CCAA.

2.2.3 - Toxic Air Contaminants

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants (HAP). Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and HAPs in California.

2.2.4 - Air Pollutant Description and Health Effects

The federal and state ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 1.

Table 1: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO_X, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.070 ppm[f]			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide[b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides—NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM-related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. Nitrogen dioxide (NO_2) forms quickly from NO_X emissions. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide[c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human-caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	• Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravates existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. • Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, about one-thirtieth the size of the average human hair.	Stationary sources include fuel or wood combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal; and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust. Secondary particles form from reactions in the atmosphere.
	Mean	20 µg/m^3	—			
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 µg/m^3			
	Annual	12 µg/m^3	12.0 µg/m^3			
Visibility-reducing particles	8 Hour	See note below[d]				

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m^3	—	(a) Decrease in ventilatory function; (b) aggravation of asthmatic symptoms; (c) aggravation of cardio-pulmonary disease; (d) vegetation damage; (e) degradation of visibility; (f) property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead[e]	30-day	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQ.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride[e]	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
				headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.		Anthropogenic sources include the combustion of sulfur-containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no state or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROG), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROG and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.
Diesel particulate matter (DPM)		There are no ambient air quality standards for DPM.		Some short-term (acute) effects of DPM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of DPM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	DPM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of DPM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Table 1 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources

Notes:
ppm = parts per million (concentration) $\mu g/m^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour NO_2 national standard, the 3-year average of the annual 98^{th} percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 parts per billion (ppb) (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility-reducing particles: In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are “extinction of 0.23 per kilometer” and “extinction of 0.07 per kilometer” for the statewide and Lake Tahoe Air Basin standards, respectively.

[e] The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[f] The EPA Administrator approved a revised 8-hour ozone standard of 0.07 ppb on October 1, 2015. The new standard went into effect 60 days after publication of the Final Rule in the Federal Register. The Final Rule was published in the Federal Register on October 26, 2015 and became effective on December 28, 2015.

Source of effects, properties, and sources: South Coast Air Quality Management District 2007; California Environmental Protection Agency 2002; California Air Resources Board 2009a; U.S. Environmental Protection Agency 2003, 2009a, 2009b, 2010, 2011, 2012a and 2012b; National Toxicology Program 2011 and 2016.
Source of standards: California Air Resources Board 2013a.

Several pollutants listed in Table 1 are not addressed in this analysis. Analysis of lead, hydrogen sulfide, sulfates, and vinyl chloride are not included in this report because no new sources of these pollutant emissions are anticipated with the project. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed as PM_{10} and $PM_{2.5}$.

Toxic Air Contaminants Health Effects

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. There are no ambient air quality standards for TAC emissions. TACs are regulated in terms of health risks to individuals and populations exposed to the pollutants. The 1990 Clean Air Act Amendments significantly expanded the EPA's authority to regulate hazardous air pollutants. Section 112 of the Clean Air Act lists 187 hazardous air pollutants to be regulated by source category. Authority to regulate these pollutants was delegated to individual states. ARB and local air districts regulate TACs and hazardous air pollutants in California.

Exposures to TACs emissions can have both chronic long-term (over a year or longer) and acute short-term (over a period of hours) health impacts. The TACs of greatest concern are those that cause serious health problems or affect many people. Health problems can include cancer, respiratory irritation, nervous system problems, and birth defects. Some health problems occur very soon after a person inhales a TAC. These immediate effects may be minor, such as watery eyes, or they may be serious, such as life-threatening lung damage. Other health problems may not appear until many months or years after a person's first exposure to the TAC. Cancer is one example of a delayed health problem.

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The California Almanac of Emissions and Air Quality—2009 Edition (ARB 2009b) presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. The ten TACs are acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (DPM).

Some studies indicate that DPM poses the greatest health risk among the TACs listed above. A 10-year research program (ARB 1998) demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health risk. In addition to increased risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause a cough, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

DPM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although DPM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on: engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for DPM because no routine measurement method currently exists. The ARB has made preliminary concentration estimates based on a DPM exposure method. This method uses the ARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of DPM.

Health risks attributable to the top 10 TACs listed above are available from the ARB as part of its 2009California Almanac of Emissions and Air Quality. As shown therein, the estimated cancer risk in Western Riverside County was approximately 435 excess cancer cases per million people. Approximately 69 percent of the cancer risk (300 in a million) is attributable to DPM. The other TAC of concern for the project gasoline station, Benzene presented a risk of 44 in a million or about 10 percent of the total risk from all TAC emissions. Risks associated with DPM emissions are provided only for the year 2000 and have not been updated in the Almanac. TAC emissions have declined substantially since the ARB's Diesel Risk Reduction Plan was adopted in 2000. The goal of the Diesel Risk Reduction Plan is to reduce TAC emissions by 85 percent from 2000 levels by 2020. The regulations implementing the Plan are expected to provide continued reductions in DPM through 2020 and beyond through regulations on TAC sources (ARB 2013b).

Asbestos

Asbestos is the name given to a number of naturally occurring fibrous silicate minerals that have been mined for their useful properties such as thermal insulation, chemical and thermal stability, and high tensile strength. The three most common types of asbestos are chrysotile, amosite, and crocidolite. Chrysotile, also known as white asbestos, is the most common type of asbestos found in buildings. Chrysotile makes up approximately 90 to 95 percent of all asbestos contained in buildings in the United States. Exposure to asbestos is a health threat; exposure to asbestos fibers may result in health issues such as lung cancer, mesothelioma (a rare cancer of the thin membranes lining the lungs, chest, and abdominal cavity), and asbestosis (a non-cancerous lung disease that causes scarring of the lungs). Exposure to asbestos can occur during demolition or remodeling of buildings that were constructed prior to the 1977 ban on asbestos for use in buildings. Exposure to naturally occurring asbestos can occur during soil-disturbing activities in areas with deposits present. No naturally occurring asbestos is located near the project site.

2.3—Existing Air Quality Conditions

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. Table 2 summarizes 2015 through 2017 published monitoring data, which is the most recent three-year period available. The table displays data from the Lake Elsinore Flint Street monitoring station (located approximately 2.9 miles east the project site), the Riverside-Rubidoux monitoring station (located approximately 23.6 miles north of the project site), and the Perris-D Street monitoring station (located approximately 12.5 miles northeast of the site). The data show that during the past few years, the project area has exceeded the standards for ozone (state and national), PM_{10} (state), and $PM_{2.5}$ (national). The data in the table reflect the concentration of the

pollutants in the air, measured using air monitoring equipment. This differs from emissions, which are calculations of a pollutant being emitted over a certain period. No recent monitoring data for Riverside County or the South Coast Air Basin was available for CO or SO_2. (The last data collected for CO was in 2012.) Generally, no monitoring is conducted for pollutants that are no longer likely to exceed ambient air quality standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2015	2016	2017
Ozone[1]	1 Hour	Max 1 Hour (ppm)	**0.131**	**0.124**	**0.121**
		Days > State Standard (0.09 ppm)	18	15	23
Ozone	8 Hour	Max 8 Hour (ppm)	**0.098**	**0.093**	**0.098**
		Days > State Standard (0.07 ppm)	35	45	56
		Days > National Standard (0.070 ppm)	31	44	54
Carbon monoxide (CO)	8 Hour	Max 8 Hour (ppm)	ND	ND	ND
		Days > State Standard (9.0 ppm)	ND	ND	ND
		Days > National Standard (9 ppm)	ND	ND	ND
Nitrogen dioxide (NO_2)[1]	Annual	Annual Average (ppm)	0.008	0.008	0.008
	1 Hour	Max 1 Hour (ppm)	0.0472	0.0513	0.0490
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide (SO_2)	Annual	Annual Average (ppm)	ND	ND	ND
	24 Hour	Max 24 Hour (ppm)	ND	ND	ND
		Days > State Standard (0.04 ppm)	ND	ND	ND
Inhalable coarse particles (PM_{10})[2]	Annual	Annual Average (µg/m^3)	33.1	**32.2**	32.6
	24 hour	24 Hour (µg/m^3)	**188.0**	**76.0**	**75.4**
		Days > State Standard (50 µg/m^3)	25.7	ID	68.7
		Days > National Standard (150 µg/m^3)	0	0	0
Fine particulate matter ($PM_{2.5}$)[3]	Annual	Annual Average (µg/m^3)	15.3	12.6	14.5
	24 Hour	24 Hour (µg/m^3)	**54.7**	**51.5**	**50.3**
		Days > National Standard (35 µg/m^3)	10.3	5.1	7.2

Notes:
> = exceed
ppm = parts per million
µg/m^3 = micrograms per cubic meter
ID = insufficient data
ND = no data
max = maximum
Bold = exceedance
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
[1] Lake Elsinore-Flint Street Monitoring Station
[2] Perris-D Street Monitoring Station
[3] Riverside-Rubidoux Monitoring Station
Source: California Air Resources Board 2017a.

The health impacts of the various air pollutants of concern can be presented in a number of ways. The clearest of these is comparable with the state and federal ozone standards. If concentrations are below the standard, it is safe to say that no health impact would occur to anyone. When concentrations exceed the standard, impacts will vary based on the amount by which the standard is exceeded. The EPA developed the Air Quality Index (AQI) as an easy-to-understand measure of health impacts compared with concentrations in the air. Table 3 provides a description of the health impacts of ozone at different concentrations.

Table 3: Air Quality Index and Health Effects from Ozone

Air Quality Index/ 8-hour Ozone Concentration	Health Effects Description
AQI 51–100—Moderate Concentration 55–70 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Unusually sensitive individuals may experience respiratory symptoms.
	Cautionary Statements: Unusually sensitive people should consider limiting prolonged outdoor exertion.
AQI 101–150—Unhealthy for Sensitive Groups Concentration 71–85 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasing likelihood of respiratory symptoms and breathing discomfort in active children and adults and people with respiratory disease, such as asthma.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should limit prolonged outdoor exertion.
AQI 151–200—Unhealthy Concentration 86–105 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Greater likelihood of respiratory symptoms and breathing difficulty in active children and adults and people with respiratory disease, such as asthma; possible respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
AQI 201–300—Very Unhealthy Concentration 106–200 ppb	**Sensitive Groups**: Children and people with asthma are the groups most at risk.
	Health Effects Statements: Increasingly severe symptoms and impaired breathing likely in active children and adults and people with respiratory disease, such as asthma; increasing likelihood of respiratory effects in general population.
	Cautionary Statements: Active children and adults, and people with respiratory disease, such as asthma, should avoid all outdoor exertion; everyone else, especially children, should limit outdoor exertion.
Source: Air Now 2015.	

The AQI for the 8-hour ozone standard was changed to reflect the current NAAQS of 70 parts per billion (ppb). Based on the AQI scale for the 8-hour ozone standard, the project area experienced no days in the last three years that would be categorized as very unhealthy (AQI 201–250), and as many as 129 days that were unhealthy (AQI 151–200) or unhealthy for sensitive groups (AQI 101–150), violating the 70-ppb standard as measured at the Lake Elsinore-Flint Street monitoring station. The highest reading was 98 parts per billion (ppb) in 2015 and 2017 (AQI 182), compared with the 105-ppb cutoff point for unhealthy (AQI 200). The most days over the standard in the last three years were 54 days in 2017.

The other nonattainment pollutant of concern is $PM_{2.5}$. An AQI of 100 or lower is considered moderate and would be triggered by a 24-hour average concentration of 12.1 to 35.4 µg/m^3. An AQI of 101 to 150 or 35.5-55.4 µg/m^3 is considered unhealthful for sensitive groups. When concentrations reach this amount, it is considered an exceedance of the federal $PM_{2.5}$ standard. The Riverside Rubidoux monitoring station exceeded the standard on approximately 22 days in the three-year period spanning from 2015 to 2017. People with respiratory or heart disease, the elderly and children are the groups most at risk. Unusually sensitive people should consider reducing prolonged or heavy exertion. The AQI of 151 to 200 is classified as unhealthy for everyone. This AQI classification is triggered when $PM_{2.5}$ concentration ranges from 55.4 to 150.4 µg/m^3. At this concentration, there is increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and in the elderly. People with respiratory or heart disease, the elderly, and children should limit prolonged exertion. Everyone else should reduce prolonged or heavy exertion. The highest concentration recorded at the Riverside Rubidoux monitoring station in the last three years was 54.7 µg/m^3 (AQI 148) in 2015. At this concentration, increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly, and increased respiratory effects in general population would occur. People with respiratory or heart disease, the elderly, and children should avoid prolonged exertion; everyone else should limit prolonged exertion when the AQI exceeds this level. The relationship of the AQI to health effects in shown Table 4.

Table 4: Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 51–100—Moderate	**Sensitive Groups**: Some people who may be unusually sensitive to particle.
Concentration 12.1–35.4 µg/m^3	**Health Effects Statements**: Unusually sensitive people should consider reducing prolonged or heavy exertion.
	Cautionary Statements: Unusually sensitive people: Consider reducing prolonged or heavy exertion. Watch for symptoms such as coughing or shortness of breath. These are signs to take it easier.
	If you have heart disease: Symptoms such as palpitations, shortness of breath, or unusual fatigue may indicate a serious problem. If you have any of these, contact your health care provider.

Table 4 (cont.): Air Quality Index and Health Effects of Particulate Pollution

Air Quality Index/ $PM_{2.5}$ Concentration	Health Effects Description
AQI 101–150—Unhealthy for Sensitive Groups Concentration 35.5–55.4 µg/m^2	**Sensitive Groups**: Sensitive groups include people with heart or lung disease, older adults, children, and teenagers.
	Health Effects Statements: Increasing likelihood of respiratory symptoms in sensitive individuals, aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease, and the elderly.
AQI 151–200—Unhealthy Concentration 55.5–150.4 µg/m^3	**Sensitive Groups**: Everyone
	Health Effects Statements: Increased aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; increased respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling. Everyone else: Reduce prolonged or heavy exertion. Take more breaks during outdoor activities.
AQI 201–300—Very Unhealthy Concentration 150.5–250.4 µg/m^3	**Sensitive Groups**: Everyone
	Health Effects Statements: Significant aggravation of heart or lung disease and premature mortality in persons with cardiopulmonary disease and the elderly; significant increase in respiratory effects in general population.
	Cautionary Statements: Sensitive groups: Avoid all physical activity outdoors. Move activities indoors or reschedule to a time when air quality is better. Everyone else: Avoid prolonged or heavy exertion. Consider moving activities indoors or rescheduling to a time when air quality is better.

2.3.1 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated marginal, moderate, serious, severe, or extreme as a function of deviation from standards.

Each standard has a different definition, or "form" of what constitutes attainment, based on specific air quality statistics. For example, the federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The current attainment designations for the Air Basin are shown in Table 5. The Air Basin is designated nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

Table 5: South Coast Air Basin Attainment Status

Pollutant	State Status	National Status
Ozone—One Hour	Nonattainment	Nonattainment/Extreme1
Ozone—Eight Hour	Nonattainment	Nonattainment/Extreme
Carbon monoxide	Attainment	Attainment/Maintenance
Nitrogen dioxide	Attainment/Maintenance	Attainment/Unclassifiable
Sulfur dioxide	Attainment	Attainment/Unclassifiable
PM_{10}	Nonattainment	Attainment/Maintenance
$PM_{2.5}$	Nonattainment	Nonattainment/Serious
Lead	Attainment	Nonattainment/Partial[2]

Notes:
[1] 1-hour O^3 standard (0.12 ppm) was revoked, effective June 15, 2005; however, the Basin has not attained this standard based on 2008–2010 data and is still subject to anti-backsliding requirements.
[2] Partial Nonattainment designation—Los Angeles County portion of Basin only for near-source monitors. Expect redesignation to attainment based on current monitoring data.
Source of status information (SCAQMD 2016).

2.4—Air Quality Plans and Regulations

Air pollutants are regulated at the national, state, and air basin or county level, and each agency has a different level of regulatory responsibility: the EPA regulates at the national level, the ARB at the state level, and the SCAQMD at the air basin level.

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards—also known as the federal standards described earlier.

A State Implementation Plan (SIP) is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The SIP for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's SIP incorporates individual federal attainment plans for regional air districts; specifically, an air district prepares their federal attainment plan, which is sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. The ARB then submits the SIP to the EPA for approval. After reviewing submitted SIPs, the EPA proposes to approve or disapprove all or part of each plan. The public has an opportunity to comment on the EPA's proposed action. The EPA considers public input before taking final action on a state's plan. If EPA approves all or part of a SIP, those control measures are enforceable in federal court. If a state fails to submit an approvable plan or if the EPA disapproves a plan, the EPA is required to develop a federal implementation plan (FIP). The SIP approval process often takes several years.

Areas designated nonattainment must develop air quality plans and regulations to achieve standards by specified dates, depending on the severity of the exceedances. For much of the country, implementation of federal motor vehicle standards and compliance with federal permitting requirements for industrial sources are adequate to attain air quality standards on schedule. For many areas of California, however, additional state and local regulation is required to achieve the standards. Regulations adopted by California are described below.

2.4.1 - California Regulations

Low-Emission Vehicle Program

The ARB first adopted Low-Emission Vehicle (LEV) program standards in 1990. These first LEV standards ran from 1994 through 2003. LEV II regulations, running from 2004 through 2010, represent continuing progress in emission reductions. As the State's passenger vehicle fleet continues to grow and more sport utility vehicles and pickup trucks are used as passenger cars rather than work vehicles, the more stringent LEV II standards were adopted to provide reductions necessary for California to meet federally mandated clean air goals outlined in the 1994 State Implementation Plan. In 2012, ARB adopted the LEV III amendments to California's LEV regulations. These amendments, also known as the Advanced Clean Car Program include more stringent emission standards for model years 2017 through 2025 for both criteria pollutants and GHGs for new passenger vehicles (ARB 2012a).

On-Road Heavy-Duty Vehicle Program

The ARB has adopted standards for emissions from various types of new on-road heavy-duty vehicles. Section 1956.8, Title 13, California Code of Regulations contains California's emission standards for on-road heavy-duty engines and vehicles, as well as test procedures. ARB has also adopted programs to reduce emissions from in-use heavy-duty vehicles including the Heavy-Duty Diesel Vehicle Idling Reduction Program, the Heavy-Duty Diesel In-Use Compliance Program, the Public Bus Fleet Rule and Engine Standards, and the School Bus Program and others (ARB 2013b).

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015b).

ARB Truck and Bus Regulation

The latest amendments to the Truck and Bus regulation became effective on December 31, 2014. The amended regulation requires diesel trucks and buses that operate in California to be upgraded to reduce emissions. Newer heavier trucks and buses must meet PM filter requirements beginning January 1, 2012. Lighter and older heavier trucks must be replaced starting January 1, 2015. By January 1, 2023, nearly all trucks and buses will need to have 2010 model year engines or equivalent.

The regulation applies to nearly all privately and federally owned diesel-fueled trucks and buses and to privately and publicly owned school buses with a gross vehicle weight rating (GVWR) greater than

14,000 pounds. The regulation provides a variety of flexibility options tailored to fleets operating low-use vehicles, fleets operating in selected vocations like agricultural and construction, and small fleets of three or fewer trucks (ARB 2015a).

ARB Regulation for In-Use Off-Road Diesel Vehicles

On July 26, 2007, the ARB adopted a regulation to reduce DPM and nitrous oxide (NO_X) emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements, making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501–5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

ARB Regulation for Consumer Products

The ARB Consumer Products Regulation was last amended in January 2015. The ARB regulates the VOC content of a wide variety of consumer products sold and manufactured in California. The purpose of the regulation is to reduce the emission of ozone precursors, TACs, and GHG emissions in products that are used by homes and businesses. The regulated products include but are not limited to solvents, adhesives, air fresheners, soaps, aromatic compounds, windshield cleaners, charcoal lighter, dry cleaning fluids, floor polishes, and general cleaners and degreasers (ARB 2015b)

ARB Airborne Toxic Control Measure for Asbestos

In July 2001, the ARB approved an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations to minimize emissions of naturally occurring asbestos. The regulation requires application of best management practices to control fugitive dust in areas known to have naturally occurring asbestos and requires notification to the local air district prior to commencement of ground-disturbing activities. The measure establishes specific testing, notification and engineering controls prior to grading, quarrying, or surface mining in construction zones where naturally occurring asbestos is located on projects of any size. There are additional notification and engineering controls at work sites larger than one acre in size. These projects require the submittal of a "Dust Mitigation Plan" and approval by the air district prior to the start of a project.

Construction sometimes requires the demolition of existing buildings where construction occurs. The project includes no demolition. Asbestos is also found in a natural state, known as naturally occurring asbestos. Exposure and disturbance of rock and soil that naturally contain asbestos can result in the release of fibers into the air and consequent exposure to the public. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Sources of asbestos emissions include unpaved roads or driveways surfaced with ultramafic rock, construction activities in ultramafic rock deposits, or rock quarrying activities where ultramafic rock is present.

The ARB has an Air Toxic Control Measure for construction, grading, quarrying, and surface mining operations, requiring the implementation of mitigation measures to minimize emissions of asbestos-laden dust. The measure applies to road construction and maintenance, construction and grading operations, and quarries and surface mines when the activity occurs in an area where naturally occurring asbestos is likely to be found. Areas are subject to the regulation if they are identified on maps published by the Department of Conservation as ultramafic rock units or if the Air Pollution Control Officer or owner/operator has knowledge of the presence of ultramafic rock, serpentine, or naturally occurring asbestos on the site. The measure also applies if ultramafic rock, serpentine, or asbestos is discovered during any operation or activity. Review of the Department of Conservation maps indicates that no ultramafic rock has been found near Lake Elsinore.

Diesel Risk Reduction Plan

The ARB's Diesel Risk Reduction Plan has led to the adoption of new state regulatory standards for all new on-road, off-road, and stationary diesel-fueled engines and vehicles to reduce DPM emissions by about 90 percent overall from year 2000 levels. The projected emission benefits associated with the full implementation of this plan, including federal measures, are reductions in DPM emissions and associated cancer risks of 75 percent by 2010, and 85 percent by 2020 (ARB 2000).

2.4.2 - South Coast Air Quality Management District

The District is responsible for controlling emissions primarily from stationary sources. The District, in coordination with the regional transportation planning agency, is also responsible for developing, updating, and implementing air quality attainment plans for the Air Basin. The District also has roles under CEQA.

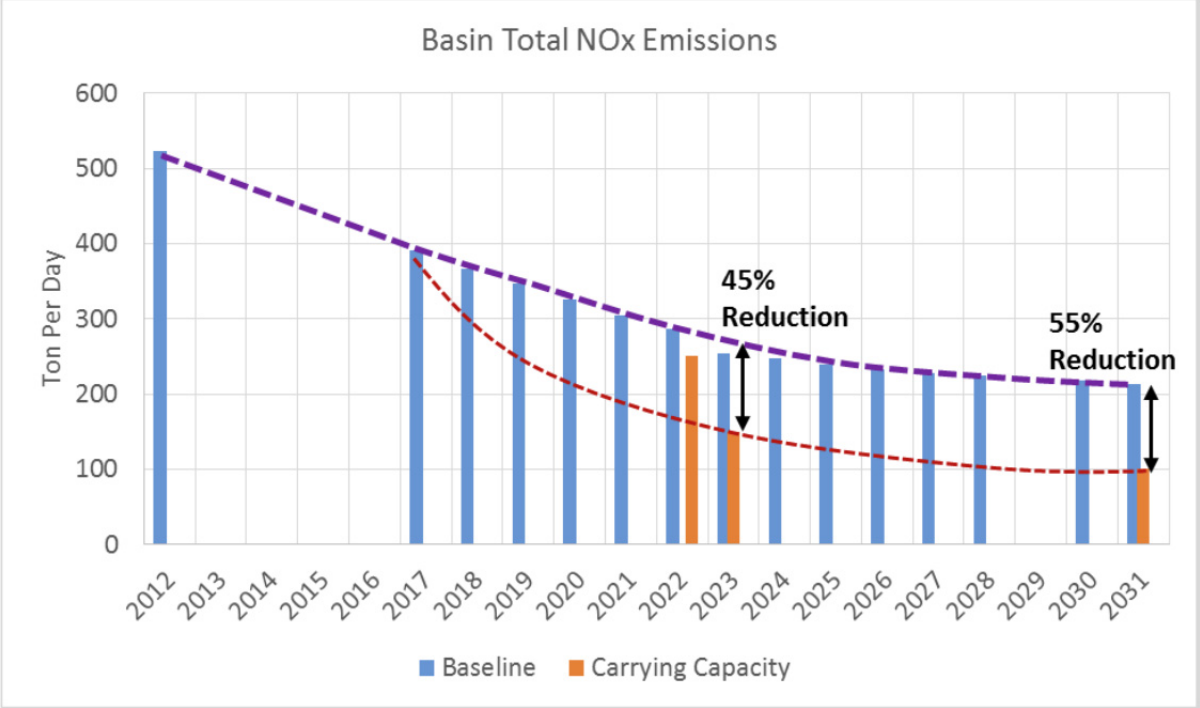
Air Quality Management Plans

The Air Quality Management Plan (AQMP) is a regional blueprint for achieving air quality standards and healthful air. The most recent 2016 AQMP represents a comprehensive analysis of emissions, meteorology, atmospheric chemistry, regional growth projections, and the impact of existing control measures. The 2016 AQMP includes the integrated strategies and measures needed to meet the National Ambient Air Quality Standards (NAAQS). South Coast AQMD approved the 2016 AQMP on March 3, 2017 that demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hr and annual $PM_{2.5}$ standards.

Five NAAQS are evaluated in the AQMP. Three standards—the 8-hour ozone NAAQS established in 2008 (2008 8-hour Ozone), the annual $PM_{2.5}$ NAAQS established in 2012 (2012 annual $PM_{2.5}$), and the 24-hour $PM_{2.5}$ NAAQS established in 2006 (2006 24-hour $PM_{2.5}$) are have a new attainment demonstration in this Plan. However, given the overlaps in emissions and control strategies for other yet-to-be-attained NAAQS, this integrated Plan also includes revisions to the attainment demonstrations for two other standards: the 1997 8-hour ozone NAAQS and the 1979 1-hour ozone NAAQS. While the previous 2012 AQMP focused on attainment of the 2006 24-hour $PM_{2.5}$ standard, it has since been determined, primarily due to unexpected drought conditions, that it was impracticable to meet the standard by the original attainment year. Since that time, the EPA has approved a re-classification to "serious" nonattainment for the 24-hour $PM_{2.5}$ standard, which requires a new attainment demonstration with a new attainment deadline.

The most significant air quality challenge in the Basin is to reduce nitrogen oxide (NO_X) emissions sufficiently to meet the upcoming ozone standard deadlines. Based on the inventory and modeling results, 522 tons per day (tpd) of total Basin NO_X 2012 emissions are projected to drop to 255 tpd and 214 tpd in the 8-hour ozone attainment years of 2023 and 2031 respectively, due to continued implementation of already adopted regulatory actions ("baseline emissions"). The analysis suggests that total Basin emissions of NO_X must be reduced to approximately 141 tpd in 2023 and 96 tpd in 2031 to attain the 8-hour ozone standards. This represents an additional 45 percent reduction in NO_X in 2023, and an additional 55 percent NO_X reduction beyond 2031 levels. Figure 4 presents the future projections of NO_X emissions, the reductions from the proposed control strategy and the levels necessary to attain the standards. The chart also illustrates how the strategy to meet the 8-hour ozone standard in 2023 should lead to sufficient NO_X emission reductions to attain the 1-hour ozone standard by 2022. Since NO_X emissions also lead to the formation of $PM_{2.5}$, the NO_X reductions needed to meet the ozone standards will likewise lead to improvement of $PM_{2.5}$ levels and attainment of $PM_{2.5}$ standards (SCAQMD 2016b).

Figure 4: South Coast Air Basin NO_X Emissions 2012 to 2031



Source: SCAQMD 2016b

SCAQMD Rules and Regulations

The following rules apply to projects in the SCAQMD, but may not include all rules ultimately applicable to the project.

Rule 201 Permit to Construct. This rule requires persons who build, erect, alter, or replace equipment or agricultural permit unit, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce, or control the issuance of air contaminants without first

obtaining written authorization for such construction from the Executive Officer. The gasoline fueling facility will require air quality permits.

Rule 402 Nuisance. The rule requires that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 Fugitive Dust. Rule 403 includes a menu of fugitive dust control measures to which the project must adhere, including, but not limited to:

- Active construction areas shall be watered at least three times daily.
- All haul trucks shall be covered or shall maintain at least two feet of freeboard.
- All unpaved parking or staging areas shall be watered four times daily.
- Site access points shall be swept or washed within 30 minutes of any visible dirt deposition on any public roadway.
- On-site stockpiles of debris, dirt, or other dusty material shall be covered or watered three times daily.
- Operations on any unpaved surface shall be suspended if winds exceed 25 miles per hour.
- Any cleared area that is to remain inactive for more than 96 hours after clearing shall be stabilized.
- During all construction activities, construction contractors shall sweep on-site and off-site streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

Rule 461 Gasoline Transfer and Storage. This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler, and from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank. The rule requires the installation of vapor recovery systems.

SCAQMD Rule 1108 governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the SoCAB. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

Rule 1186 Paved and Unpaved Roads. Rule 1186 lists maintenance guidelines for paved and unpaved public roads, with a goal of reducing the amount of particulate matter generated as a result of vehicular travel on public roads.

Rule 1186.1. Street Sweepers. Any street sweepers used in compliance with Rule 1186 be fueled by alternative fuel or less-polluting sweepers shall be obtained

Rule 1113—Architectural Coatings. The rule limits the volatile organic compound (VOC) content of architectural coatings by providing numeric standards for VOC concentrations per volume of coating. The applicability of this rule includes any person who applies or solicits the application of any architectural coatings used within the SCAQMD.

Rule 1186—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641.

Rule 1301 New Source Review—General. This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards, and that future economic growth within the SCAQMD is not unnecessarily restricted.

CEQA

The District has two roles under CEQA:

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

The District also provides guidance and thresholds for CEQA air quality and GHG analyses. The District 1993 Air Quality Analysis Guidance Handbook is obsolete. Until a new guidance document is prepared, information for CEQA practitioners is provided on the SCAQMD website (SCAQMD 2019).

2.4.3 - Local

The City of Lake Elsinore adopted its 2011 General Plan in December 2011 (City of Lake Elsinore 2011b). The City's applicable air quality goals and policies are listed below.

General Plan Goals, Policies and Implementation Programs

Chapter 2.0 Community Form (Section 2.4 Circulation

- **Goal 6:** Optimize the efficiency and safety of the transportation system within the City of Lake Elsinore.
  - **Policy 6.4:** Maintain the system of bike lanes and multi-use trails throughout the City. Encourage the implementation of the network of Class I, II, and III bike lanes on all development projects through construction of the facility as described in the Bike Lane Master Plan and/or the Trails Master Plan.

Chapter 2.0 Community Form (Section 2.5 Growth Management

- **Goal 7:** Maintain orderly, efficient patterns of growth that enhance the quality of life for the residents of Lake Elsinore.

- **Policy 7.1** Encourage mixed-use developments to reduce public service costs and environmental impacts through compatible land use relationships, and efficient circulation and open space systems.
- **Implementation Program.** As part of the project review and the CEQA processes, the City shall evaluate growth impacts from individual and cumulative projects to determine their effect on quality of life within the City.

Chapter 3.0 Public Safety and Welfare (Section 3.2 Air Quality

- **Goal 1:** Continue to coordinate with the Air Quality Management District and the City's Building Department to reduce the amount of fugitive dust that is emitted into the atmosphere from unpaved areas, parking lots, and construction sites. Maintain orderly, efficient patterns of growth that enhance the quality of life for the residents of Lake Elsinore.
- **Policy 1.1** Continue to implement requirements identified in the National Pollutant Discharge Elimination System (NPDES).
- **Implementation Program.** The City shall continue to condition projects to comply with the South Coast Air Quality Management District rules and regulations.
- **Goal 2:** Work with regional and state governments to develop effective mitigation measures to improve air quality.
  - **Policy 2.1** Support the SCAQMD in its development of improved ambient air quality monitoring capabilities and establishment of standards, thresholds, and rules to address, and where necessary mitigate, the air quality impacts of new development**.**
  - **Policy 2.2** Support programs that educate the public about regional air quality issues, opportunities, and solutions.
  - **Policy 2.3** Evaluate the purchase of alternative fuel vehicles for official City vehicles.
  - **Implementation Program.** The City shall coordinate with the South Coast Air Quality Management District regarding effective methods for improving local air quality.

Chapter 4.0 Resource Protection and Preservation (Section 4.9 Sustainable Environment)

- **Policy 14.2** Measures shall be established that aim to reduce emissions generated from City uses, community uses (community actions) and new development (City discretionary actions).

Open Space and Conservation Element

- **Goal 3:** A built environment that conserves and protects the use and quality of water and energy resources.
  - **Policy 3.5: Energy and water conservation.** Encourage new development and substantial rehabilitation projects to exceed energy and water conservation and reduction standards set in the California Building Code.

2.4.4 - Existing Sources of Toxic Emissions

No existing sources were identified that exceed ARB recommendations in its Air Quality Land Use Handbook for siting sensitive land uses impact the project.

2.4.5 - ARB Air Quality Land Use Handbook

Table 6 lists the following ARB advisory recommendations that address the issue of siting "sensitive land uses" near specific sources of air pollution (ARB 2005):

- High traffic freeways and roads
- Distribution centers
- Rail yards
- Ports
- Refineries
- Chrome plating facilities
- Dry cleaners
- Large gas dispensing facilities

The analysis examines the area around the site to determine if potential sources of TAC emissions may impact the project, based on the ARB recommended screening distances.

Table 6: Recommendations on Siting New Sensitive Land Uses

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with three or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas dispensing facilities.
Note: These recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.	

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SECTION 3: CLIMATE CHANGE SETTING

3.1—Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance, specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

An individual project cannot generate enough GHG emissions to cause a discernible change in global climate. However, the project participates in the potential for global climate change by its incremental contribution of GHGs—and when combined with the cumulative increase of all other sources of GHGs—constitute potential influences on global climate change.

3.1.1 - Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from WRCOG 2016, CCCC 2006, and Moser et al. 2009):

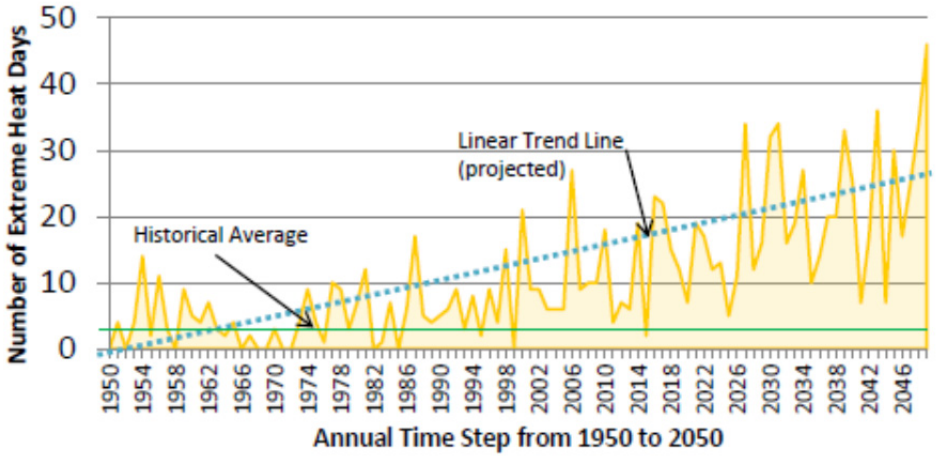
- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Most of the water for the WRGOG subregion comes from the Sierra Nevada. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation. The southwest portion of Riverside County is expected to experience a large increase in wildfire risk.

- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the Inland Empire, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase in temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves and extreme flooding events in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

Consequences of Climate Change in Western Riverside County

Figure 4 displays a chart of measured historical and projected annual number of extreme heat days in the Western Riverside County area. As shown in the figure, the trend is for a substantial increase in extreme heat days to continue through 2050. (WRCOG 2014).

Figure 4: Historic and Projected Extreme Heat Days, 1950 to 2050



Source: WRCOG 2014

Water Supply

The Elsinore Valley Municipal Water District (EVMWD) would provide water for the project. The EVMWD relies on groundwater and treated surface water for potable water supplies. The potential impacts of climate change on water resources may be felt through changes in temperature, precipitation, and runoff. More frequent and longer droughts would reduce imported water supply reliability and decrease local water quality and habitat (EVMWD 2015).

Wildfires

The project site is within an urbanizing area near the Cleveland National Forest that is expected to be subject to increased risk from. The potential for increased temperatures and drought conditions due to climate change would result in increased risk from wildfire in those areas.

Human Health Effects of GHG Emissions

GHG emissions from development projects would not result in concentrations that would directly impact public health. However, the cumulative effects of GHG emissions on climate change have the potential to cause adverse effects to human health.

In its report, Global Climate Change Impacts in the U.S. (2009), the U.S. Global Change Research Program has analyzed the degree to which impacts on human health are expected to impact the United States.

Potential effects of climate change on public health include:

- Direct Temperature Effects: Climate change may directly affect human health through increases in average temperatures, which are predicted to increase the incidence of heat waves and hot extremes.
- Extreme Events: Climate change may affect the frequency and severity of extreme weather events, such as hurricanes and extreme heat and floods, which can be destructive to human health and well-being.
- Climate-Sensitive Diseases: Climate change may increase the risk of some infectious diseases, particularly those diseases that appear in warm areas and are spread by mosquitoes and other insects, such as malaria, dengue fever, yellow fever, and encephalitis.
- Air Quality: Respiratory disorders may be exacerbated by warming-induced increases in the frequency of smog (ground-level ozone) events and particulate air pollution (EPA 2009a).

Although there could be health effects resulting from changes in the climate and the consequences that can occur, inhalation of GHGs at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (CDC 2010 and OSHA 2003).

3.2—Greenhouse Gases

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

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a GHG compared with the reference gas, CO_2.

Individual GHG compounds have varying global warming potential and atmospheric lifetimes. CO_2, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a GHG is a measure of how much a given mass of a GHG is estimated to contribute to global warming. To describe how much global warming a given type and amount of GHG may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing GHG emissions since it normalizes various GHG emissions to a consistent reference gas, CO_2. For example, CH_4's warming potential of 25 indicates that CH_4 has 25 times greater warming effect than CO_2 on a molecule-per-molecule basis. A carbon dioxide equivalent is the mass emissions of an individual GHG multiplied by its global warming potential. GHGs defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include CO_2, CH_4, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 7. A seventh GHG, nitrogen trifluoride (NF_3), was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. The global warming potential amounts are from IPCC Fourth Assessment Report (AR4).

Table 7: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless GHG. It has a lifetime of 114 years. Its global warming potential is 298.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.

Table 7 (cont.): Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural GHG. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chlorofluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 124 to 14,800.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 7,390 to 12,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride (SF_6) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential of 22,800.	This gas is man-made and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Nitrogen trifluoride	Nitrogen trifluoride (NF_3) was added to Health and Safety Code section 38505(g)(7) as a GHG of concern. It has a high global warming potential of 17,200.	This gas is used in electronics manufacture for semiconductors and liquid crystal displays.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and 2007b.		

The State has begun addressing pollutants referred to as short-lived climate pollutants. Senate Bill (SB) 605, approved by the governor on September 14, 2014 required the ARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016. ARB was required to complete an emission inventory of these pollutants, identify research needs, identify existing and potential new control measures that offer co-benefits, and coordinated with other state agencies and districts to develop measures. The Short-Lived Climate Pollutant Strategy was approved by the ARB on March 24, 2017. The strategy calls for reductions of 50 percent from black carbon, 40 percent from methane, and 40 percent from HFCs from the 2030 Business as Usual (BAU) inventory for these pollutants (ARB 2017b).

The short-lived climate pollutants include three main components: black carbon, fluorinated gases, and methane. Fluorinated gases and methane are described in Table 7 and are already included in the California GHG inventory. Black carbon has not been included in past GHG inventories; however, ARB will include it in its comprehensive strategy (ARB 2015c).

Ozone is another short-lived climate pollutant that will be part of the strategy. Ozone affects evaporation rates, cloud formation, and precipitation levels. Ozone is not directly emitted, so its precursor emissions, volatile organic compounds (VOC) and oxides of nitrogen (NO_X) on a regional scale and CH_4 on a hemispheric scale will be subject of the strategy (ARB 2015c).

Black carbon is a component of fine particulate matter. Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, whereas other GHGs can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).

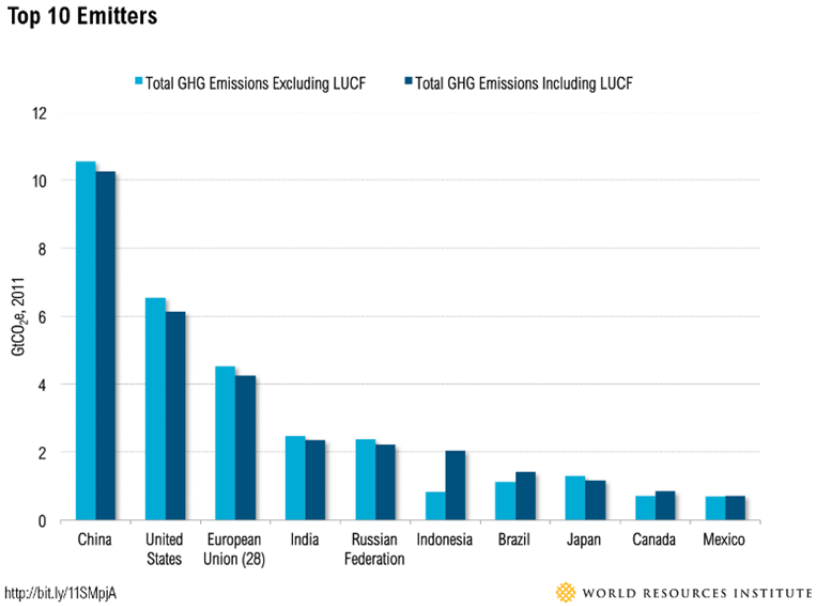
Global warming potentials for black carbon were not defined by the IPCC in its Fourth Assessment Report. The ARB has identified a global warming potential of 3,200 using a 20-year time horizon and 900 using a 100-year time horizon from the IPCC Fifth Assessment. Sources of black carbon are already regulated by ARB, and air district criteria pollutant and toxic regulations that control fine particulate emissions from diesel engines and other combustion sources (ARB 2015d). Additional controls on the sources of black carbon specifically for their GHG impacts beyond those required for toxic and fine particulates are not likely to be needed.

Water vapor is also considered a GHG. Water vapor is an important component of our climate system and is not regulated. Increasing water vapor leads to warmer temperatures, which causes more water vapor to be absorbed into the air. Warming and water absorption increase in a spiraling cycle. Water vapor feedback can also amplify the warming effect of other GHGs, such that the warming brought about by increased carbon dioxide allows more water vapor to enter the atmosphere (NASA 2015b).

3.2.1 - Emissions Inventories

An emissions inventory is a database that lists, by source, the amount of air pollutants discharged into the atmosphere of a geographic area during a given time period. Emissions worldwide were approximately 43,286 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2012. As shown in Figure 5, China was the largest GHG emitter with over 10 billion metric tons of CO_2e, and the United States was the second-largest GHG emitter with over 6 billion metric tons of CO_2e (WRI 2014).

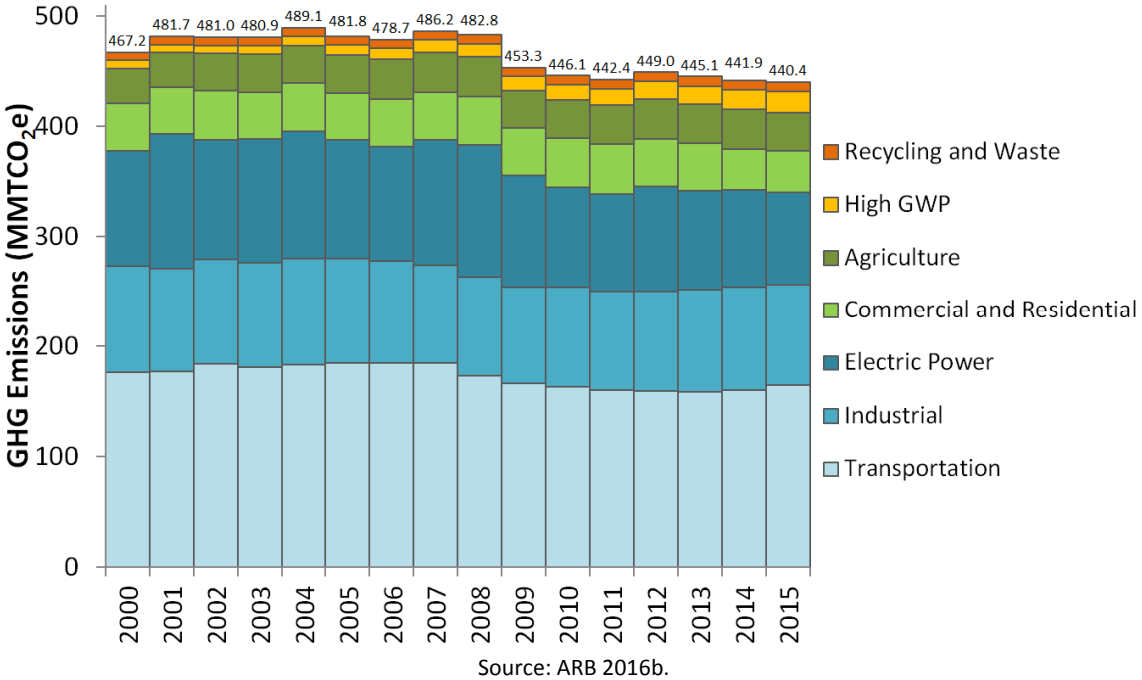
Figure 5: Greenhouse Gas Emissions by Geographic Area



Source: WRI 2014.

Figure 6 shows the contributors of GHG emissions in California between years 2000 and 2015 by Scoping Plan category. The main contributor was transportation. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output. ARB reported that California's GHG emissions inventory was 440.4 $MMTCO_2e$ in 2015 (ARB 2016b).

Figure 6: Greenhouse Gas Emission Trends by Scoping Plan Category in California



Source: ARB 2016b.

3.3—Regulatory Environment

3.3.1 - International

International organizations, such as the ones discussed below, have made substantial efforts to reduce GHGs. Preventing human-induced climate change will require the participation of all nations in solutions to address the issue.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change. The panel was tasked with assessing the scientific, technical, and socioeconomic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

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

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

In 2001, President George W. Bush indicated that he would not submit the treaty to the U.S. Senate for ratification, which effectively ended American involvement in the Kyoto Protocol. In December 2009, international leaders met in Copenhagen to address the future of international climate change commitments post-Kyoto. No binding agreement was reached in Copenhagen; however, the Committee identified the long-term goal of limiting the maximum global average temperature increase to no more than 2°C above pre-industrial levels, subject to a review in 2015. The UN Climate Change Committee held additional meetings in Durban, South Africa in November 2011; Doha, Qatar in November 2012; and Warsaw, Poland in November 2013. The meetings are gradually gaining consensus among participants on individual climate change issues.

On September 23, 2014, more than 100 heads of state and government, along with leaders from the private sector and civil society met at the Climate Summit in New York hosted by the United Nations. At the Summit, heads of government, business, and civil society announced actions in areas that would have the greatest impact on reducing emissions, including: climate finance, energy, transport, industry, agriculture, cities, forests, and building resilience.

Paris Agreement. Parties to the United Nations Framework Convention on Climate Change (UNFCCC) reached a landmark agreement on December 12, 2015 in Paris, charting a fundamentally new course in the two-decade-old global climate effort. Culminating in a 4-year negotiating round, the new treaty ends the strict differentiation between developed and developing countries that characterized earlier efforts, replacing it with a common framework that commits all countries to put forward their best efforts and to strengthen those efforts in the years ahead. This includes, for the first time, requirements that all parties report regularly on their emissions and implementation efforts, and undergo international review.

The agreement and a companion decision by parties were the key outcomes of the conference, known as the 21st session of the UNFCCC Conference of the Parties, or COP 21. Together, the Paris Agreement and the accompanying COP decision:

- Reaffirm the goal of limiting global temperature increase well below 2 degrees Celsius, while urging efforts to limit the increase to 1.5 degrees;
- Establish binding commitments by all parties to make "nationally determined contributions" (NDCs), and to pursue domestic measures aimed at achieving them;
- Commit all countries to report regularly on their emissions and "progress made in implementing and achieving" their NDCs, and to undergo international review;
- Commit all countries to submit new NDCs every five years, with the clear expectation that they will "represent a progression" beyond previous ones;
- Reaffirm the binding obligations of developed countries under the UNFCCC to support the efforts of developing countries, while for the first time encouraging voluntary contributions by developing countries too;
- Extend the current goal of mobilizing $100 billion a year in support by 2020 through 2025, with a new, higher goal to be set for the period after 2025;
- Extend a mechanism to address "loss and damage" resulting from climate change, which explicitly will not "involve or provide a basis for any liability or compensation;"
- Require parties engaging in international emissions trading to avoid "double counting;" and
- Call for a new mechanism, similar to the Clean Development Mechanism under the Kyoto Protocol, enabling emission reductions in one country to be counted toward another country's NDC (C2ES 2015a).

On June 1, 2017, President Trump announced the decision for the United States to withdraw from the Paris Climate Accord (White House 2017). California remains committed to combating climate change through programs designed to reduce GHGs.

3.3.2 - Federal Regulations

Prior to the last decade, there were no concrete federal regulations of GHGs or major planning for climate change adaptation. Since then, federal activity has increased. The following are actions regarding the federal government, GHGs, and fuel efficiency.

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

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing GHG emissions standards for vehicles, as discussed in the section "Clean Vehicles" below. After a lengthy legal challenge, the United States Supreme Court declined to review an Appeals Court ruling upholding the EPA Administrator findings (EPA 2009c).

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

The first phase of the national program applies to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of CO_2 per mile, equivalent to 35.5 miles per gallon; that is, if the automobile industry were to meet this CO_2 level solely through fuel economy improvements. Together, these standards would cut CO_2 emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). The EPA and the National Highway Safety Administration issued final rules on a second-phase joint rulemaking, establishing national standards for light-duty vehicles for model years 2017 through 2025 in August 2012 (EPA 2012b). The new standards for model years 2017 through 2025 apply to passenger cars, light-duty trucks, and medium duty passenger vehicles. The final standards are projected to result in an average industry fleetwide level of 163 grams/mile of CO_2 in model year 2025, which is equivalent to 54.5 miles per gallon if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation issued final rules for the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses on September 15, 2011, which became effective November 14, 2011. For combination tractors, the agencies are proposing engine and vehicle standards that began in the 2014 model year and achieve up to a 20-percent reduction in CO_2 emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10-percent reduction for gasoline vehicles, and a 15-percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10-percent reduction in fuel consumption and CO_2 emissions from the 2014 to 2018 model years.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory GHG reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule, which became effective January 1, 2010. The rule requires reporting of GHG emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial GHGs, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions are required to submit annual reports to the EPA.

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

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

The EPA estimates that facilities responsible for nearly 70 percent of the national GHG emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest GHG emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new, affected, fossil fuel-fired electric utility generating units on March 27, 2012. New sources greater than 25 megawatts would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology. President Trump signed the Executive Order on Energy Independence (E.O. 13783), which calls for a review of the Clean Power Plan. On October 16, 2017, the EPA issued the proposed rule Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units an Energy Independence (EPA 2017).

Cap-and-Trade. Cap-and-trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. There is no federal GHG cap-and-trade program currently; however, some states have joined to create initiatives to provide a mechanism for cap-and-trade.

The Regional Greenhouse Gas Initiative is an effort to reduce GHGs among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. Each state caps carbon dioxide emissions from power plants, auctions carbon dioxide emission allowances, and invests the proceeds in strategic energy programs that further reduce emissions, save consumers money, create jobs, and build a clean energy economy. The Initiative began in 2008.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional GHG emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Currently only California and Quebec are participating in the cap-and-trade program (C2ES 2015).

3.3.3 - California

Legislative Actions to Reduce GHGs

The State of California legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation such as the landmark AB 32 California Global Warming Solutions Act of 2006 was specifically enacted to address GHG emissions. Other legislation such as Title 24 and Title 20 energy standards were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions. This section describes the major provisions of the legislation.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, NO_X, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. The ARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts

> of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB approved the 1990 GHG emissions level of 427 $MMTCO_2e$ on December 6, 2007 (ARB 2007). Therefore, to meet the State's target, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a BAU scenario were estimated to be 596 $MMTCO_2e$, which do not account for reductions from AB 32 regulations (ARB 2008a). At that rate, a 28 percent reduction was required to achieve the 427 $MMTCO_2e$ 1990 inventory. In October 2010, ARB prepared an updated 2020 forecast to account for the effects of the 2008 recession and slower forecasted growth. The 2020 inventory without the benefits of adopted regulation is now estimated at 545 $MMTCO_2e$. Therefore, under the updated forecast, a 21.7 percent reduction from BAU is required to achieve 1990 levels (ARB 2010a).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is evident in updated emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016 (ARB 2018). The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with adopted regulations (ARB 2017).

ARB 2008 Scoping Plan. The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 to comply with AB 32 (ARB 2008). The Scoping Plan identifies recommended measures for multiple GHG emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 GHG target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related GHG emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and

- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. Capped strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and-trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. Uncapped strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional GHG emission reductions (ARB 2008).

Cap-and-Trade Program. The Cap-and-Trade Program is a key element of the Scoping Plan. It sets a statewide limit on sources responsible for 85 percent of California's GHG emissions, and establishes a price signal needed to drive long-term investment in cleaner fuels and more efficient use of energy. The program is designed to provide covered entities the flexibility to seek out and implement the lowest cost options to reduce emissions. The program conducted its first auction in November 2012. Compliance obligations began for power plants and large industrial sources in January 2013. Other significant milestones include linkage to Quebec's cap-and-trade system in January 2014 and starting the compliance obligation for distributors of transportation fuels, natural gas, and other fuels in January 2015 (ARB 2015d).

The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are guaranteed only on an accumulative basis. As summarized by ARB in the First Update:

> The Cap-and-Trade Regulation gives companies the flexibility to trade allowances with others or take steps to cost-effectively reduce emissions at their own facilities. Companies that emit more have to turn in more allowances or other compliance instruments. Companies that can cut their GHG emissions have to turn in fewer allowances. But as the cap declines, aggregate emissions must be reduced. In other words, a covered entity theoretically could increase its GHG emissions every year and still comply with the Cap-and-Trade Program if there is a reduction in GHG emissions from other covered entities. Such a focus on aggregate GHG emissions is considered appropriate because climate change is a global phenomenon, and the effects of GHG emissions are considered cumulative (ARB 2014b).

The Cap-and-Trade Program works with other direct regulatory measures and provides an economic incentive to reduce emissions. If California's direct regulatory measures reduce GHG emissions more than expected, then the Cap-and-Trade Program will be responsible for relatively fewer emissions reductions. If California's direct regulatory measures reduce GHG emissions less than expected, then the Cap-and-Trade Program will be responsible for relatively more emissions reductions. Thus, the Cap-and-Trade Program assures that California will meet its 2020 GHG emissions reduction mandate:

> The Cap-and-Trade Program establishes an overall limit on GHG emissions from most of the California economy—the "capped sectors." Within the capped sectors, some of the reductions are being accomplished through direct regulations, such as improved building and appliance efficiency standards, the [Low Carbon Fuel Standard] LCFS, and the 33 percent [Renewables Portfolio Standard] RPS. Whatever additional reductions are needed to bring emissions within the cap is accomplished through price incentives posed by emissions allowance prices. Together, direct regulation and price incentives assure that emissions are brought down cost-effectively to the level of the overall cap. The Cap-and-Trade Regulation provides assurance that California's 2020 limit will be met because the regulation sets a firm limit on 85 percent of California's GHG emissions. In sum, the Cap-and-Trade Program will achieve aggregate, rather than site specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by ARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures (ARB 2014b).

The ARB approved the First Update to the Scoping Plan (Update) on May 22, 2014. The Update identified the next steps for California's climate change strategy. The Update shows how California continues on its path to meet the near-term 2020 GHG limit, but also sets a path toward long-term, deep GHG emission reductions. The report established a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050.

AB 398. The Governor signed AB 398 on July 25, 2017 to extend the Cap-and-Trade Program to 2030. The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 through 2025 and 6 percent from 2026 through 2030. AB 398 also prevents Air Districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CAR 2017).

SB 32. The Governor signed SB 32 on September 8, 2016. SB 32 now gives ARB the statutory responsibility to include the 2030 target previously contained in Executive Order B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030." The 2017 Climate Change Scoping Plan Update addressing the SB 32 targets was adopted on December 14, 2017. The major elements of the framework proposed to achieve the 2030 target are as follows:

1. SB 350
   - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
   - Doubling of energy efficiency savings by 2030.
2. Low Carbon Fuel Standard (LCFS)
   - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).

3. Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
   - Maintaining existing GHG standards for light- and heavy-duty vehicles.
   - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
   - Increase ZEV buses, delivery and other trucks.
4. Sustainable Freight Action Plan
   - Improve freight system efficiency.
   - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
   - Deploy over 100,000 zero-emission trucks and equipment by 2030.
5. Short-Lived Climate Pollutant (SLCP) Reduction Strategy
   - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
   - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
6. SB 375 Sustainable Communities Strategies
   - Increased stringency of 2035 targets.
7. Post-2020 Cap-and-Trade Program
   - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
   - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
8. 20 percent reduction in greenhouse gas emissions from the refinery sector.
9. By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink (ARB 2017c).

SB 375—The Sustainable Communities and Climate Protection Act of 2008. SB 375 was signed into law on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of GHG emissions, which emits over 40 percent of the total GHG emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing GHG emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies.

Concerning CEQA, SB 375—as codified in Public Resources Code Section 21159.28—states that CEQA findings determinations for certain projects are not required to reference, describe, or discuss (1) growth-inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved Sustainable Communities Strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets;
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies); and
3. Incorporates the mitigation measures required by an applicable prior environmental document.

The targets for Riverside County ARB 8 percent by 2020 and 13 percent by 2035.

AB 1493—Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Implementation of the regulation was delayed by lawsuits filed by automakers and by the EPA's denial of an implementation waiver. The EPA subsequently granted the requested waiver in 2009, which was upheld by the by the U.S. District Court for the District of Columbia in 2011 (ARB 2013d).

The standards were phased in during the 2009 through 2016 model years. When fully phased in, the near-term (2009–2012) standards resulted in an approximately 22 percent reduction compared with the 2002 fleet, and the mid-term (2013–2016) standards resulted in about a 30 percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation, rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant (ARB 2013e).

The second phase of the implementation for the Pavley bill was incorporated into Amendments to the Low-Emission Vehicle Program referred to as LEV III or the Advanced Clean Cars program. The Advanced Clean Car program combines the control of smog-causing pollutants and GHG emissions into a single coordinated package of requirements for model years 2017 through 2025. The regulation will reduce GHGs from new cars by 34 percent from 2016 levels by 2025. The rules will reduce pollutants from gasoline and diesel-powered cars, and deliver increasing numbers of zero-emission technologies, such as full battery electric cars, newly emerging plug-in hybrid electric vehicles, and hydrogen fuel cell cars. The regulations will also ensure adequate fueling infrastructure is available for the increasing numbers of hydrogen fuel cell vehicles planned for deployment in California (ARB 2011a).

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

financially supporting, or purchasing power from new coal plants located in or out of the State. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007. The regulations implementing SB 1368 establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 lbs. CO_2 per megawatt-hour (MWh).

SB 1078—Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the State's load serving entities to meet a 33 percent renewable energy target by 2020 The ARB approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23. In 2011, the state legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

SB 350—Clean Energy and Pollution Reduction Act of 2015. The legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Provisions for a 50 percent reduction in the use of petroleum statewide were removed from the Bill because of opposition and concern that it would prevent the Bill's passage. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33 percent to 50 percent by 2030, with interim targets of 40 percent by 2024, and 25 percent by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the California Public Utility Commission (CPUC), the California Energy Commission (CEC), and local publicly owned utilities.
- Reorganize the Independent System Operator (ISO) to develop more regional electricity transmission markets and improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

SB 100—California Renewables Portfolio Standard Program. The Governor approved SB 100 on September 10, 2018. The legislation revised the Renewable Portfolio Standard goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030 (California Leginfo (2018).

SBX 7-7—The Water Conservation Act of 2009. The legislation directs urban retail water suppliers to set individual 2020 per capita water use targets and begin implementing conservation measures to achieve those goals. Meeting this statewide goal of 20 percent decrease in demand will result in a reduction of almost 2 million acre-feet in urban water use in 2020.

Executive Orders Related to GHG Emissions

California's Executive Branch has taken several actions to reduce GHGs through the use of executive orders. Although not regulatory, they set the tone for the State and guide the actions of state agencies.

Executive Order S-3-05. On June 1, 2005, former California Governor Arnold Schwarzenegger announced through Executive Order S-3-05, the following reduction targets for GHG emissions:

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

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

Executive Order B-30-15. On April 29, 2015, Governor Edmund G. Brown Jr. issued an executive order to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris late 2015. The executive order sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs the ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of $MMTCO_2e$. The executive order also requires the State's climate adaptation plan to be updated every three years and for the State to continue its climate change research program, among other provisions. As with Executive Order S-3-05, this executive order is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the Executive Order.

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

The Low Carbon Fuel Standard was subject to legal challenge in 2011. Ultimately, ARB was required to bring a new LCFS regulation to the Board for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law (OAL) approved the regulation on November 16, 2015 (ARB 2015e).

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

Executive Order B-55-18. Executive Order B-55-18 issued by Governor Brown on September 10, 2018 establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and achieve and maintain net negative emissions thereafter. The executive order directs ARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal (Brown 2018).

California Regulations and Building Codes

California has a long history of adopting regulations to improve energy efficiency in new and remodeled buildings. These regulations have kept California's energy consumption relatively flat even with rapid population growth.

Title 20 Appliance Efficiency Regulations. California Code of Regulations, Title 20: Division 2, Chapter 4, Article 4, Sections 1601–1608: Appliance Efficiency Regulations regulates the sale of appliances in California. The Appliance Efficiency Regulations include standards for both federally regulated appliances and non-federally regulated appliances. Twenty-three categories of appliances are included in the scope of these regulations including lighting, air conditioning, and most home appliances. The standards within these regulations apply to appliances that are sold or offered for sale in California, except those sold wholesale in California for final retail sale outside the State and those designed and sold exclusively for use in recreational vehicles or other mobile equipment (CEC 2018a).

Title 24 Energy Efficiency Standards. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The most current

2016 Building Energy Efficiency Standards went into effect on January 1, 2017 (CEC 2016). The 2019 Building Energy Efficiency Standards are scheduled to go into effect on January 1, 2020 (CEC 2018b).

Title 24 California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect January 1, 2011. The code is updated on a regular basis, with the most recent update consisting of the 2016 California Green Building Code Standards that became effective January 1, 2017. Local jurisdictions are permitted to adopt more stringent requirements, as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they include a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy, which is generally enforced by the local building official.

The California Green Building Standards Code (California Code of Regulations Title 24, Part 11 code) requires:

- **Short-term bicycle parking**. If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for five percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- **Long-term bicycle parking**. For buildings with over 10 tenant-occupants, provide secure bicycle parking for five percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.1.2).
- **Designated parking**. Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.5.2 (5.106.5.2).
- **Recycling by Occupants**. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of nonhazardous materials for recycling. (5.410.1).
- **Construction waste**. A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 80 percent for new homes and 80-percent for commercial projects. (5.408.1, A5.408.3.1 [nonresidential], A5.408.3.1 [residential]). All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled (5.408.3).
- **Wastewater reduction**. Each building shall reduce the generation of wastewater by one of the following methods:
  1. The installation of water-conserving fixtures or
  2. Using nonpotable water systems (5.303.4).
- **Water use savings**. Twenty percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40 percent reductions (5.303.2, A5303.2.3 [nonresidential]).

- **Water meters**. Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day (5.303.1).
- **Irrigation efficiency**. Moisture-sensing irrigation systems for larger landscaped areas (5.304.3).
- **Materials pollution control**. Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard (5.404).
- **Building commissioning**. Mandatory inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies (5.410.2).

Model Water Efficient Landscape Ordinance. The Model Water Efficient Landscape Ordinance (Ordinance) was required by AB 1881 Water Conservation Act. The bill required local agencies to adopt a local landscape ordinance at least as effective in conserving water as the Model Ordinance by January 1, 2010. Reductions in water use of 20 percent consistent with (SBX-7-7) 2020 mandate are expected for the ordinance. Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the ordinance through expedited regulation. The California Water Commission approved the revised ordinance on July 15, 2015, which became effective on December 15, 2015. New development projects that include landscaped areas of 500 square feet or more are subject to the ordinance. The update requires:

- More efficient irrigation systems
- Incentives for graywater usage
- Improvements in on-site stormwater capture
- Limiting the portion of landscapes that can be planted with high water use plants
- Reporting requirements for local agencies.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states: "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of GHG emissions or the effects of GHG emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)."

Section 21097 was also added to the Public Resources Code. This provided an exemption until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006—in stating that the failure to analyze adequately the effects of GHGs would not violate CEQA. The Natural Resources Agency completed the approval process and the Amendments became effective on March 18, 2010. The Natural Resources Agency adopted additional amendments related to greenhouse gases in the 2019 CEQA Guidelines Update adopted on December 28, 2018.

The 2010 CEQA Amendments along with the 2019 CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of GHG emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of GHG emissions:

- The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

Section 15064.4(c) states that a lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

The 2019 CEQA Guidelines include the following discussion regarding thresholds of significance.

> (d) Using environmental standards as thresholds of significance promotes consistency in significance determinations and integrates environmental review with other environmental program planning and regulation. Any public agency may adopt or use an environmental standard as a threshold of significance. In adopting or using an environmental standard as a threshold of significance, a public agency shall explain how the particular requirements of that environmental standard reduce project impacts, including cumulative impacts, to a level that is less than significant, and why the environmental standard is relevant to the analysis of the project under consideration. For the purposes of this subdivision, an "environmental standard" is a rule of general application that is adopted by a public agency through a public review process and that is all of the following:

(1) a quantitative, qualitative or performance requirement found in an ordinance, resolution, rule, regulation, order, plan or other environmental requirement;
(2) adopted for the purpose of environmental protection;
(3) addresses the environmental effect caused by the project; and,
(4) applies to the project under review.

In addition, the 2019 amendments revised Appendix G Checklist questions to include a new question specifically on energy conservation.

CEQA emphasizes that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis (see CEQA Guidelines Section 15130(f)).

California Supreme Court GHG Ruling

A November 30, 2015 ruling, the *California Supreme Court in Center for Biological Diversity (CBD) v. California Department of Fish and Wildlife (CDFW)* on the Newhall Ranch project, concluded that whether the project was consistent with meeting statewide emission reduction goals is a legally permissible criterion of significance, but the significance finding for the project was not supported by a reasoned explanation based on substantial evidence. The Court offered potential solutions on pages 25 to 27 of the ruling to address this issue summarized below.

Specifically, the Court advised that:

- **Substantiation of Project Reductions from BAU**. A lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25).
- **Compliance with Regulatory Programs or Performance Based Standards**. "A lead agency might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities. (See Final Statement of Reasons, supra, at p. 64 [greenhouse gas emissions 'may be best analyzed and mitigated at a programmatic level.'].) To the extent a project's design features comply with or exceed the regulations outlined in the Scoping Plan and adopted by the Air Resources Board or other state agencies, a lead agency could appropriately rely on their use as showing compliance with 'performance based standards' adopted to fulfill 'a statewide . . . plan for the reduction or mitigation of greenhouse gas emissions.' (CEQA Guidelines § 15064.4(a)(2), (b)(3); see also id., § 15064(h)(3) [determination that impact is not cumulatively considerable may rest on compliance with previously adopted plans or regulations, including 'plans or regulations for the reduction of greenhouse gas emissions'].)" (p. 26).
- **Compliance with GHG Reduction Plans or Climate Action Plans (CAPs)**. A lead agency may utilize "geographically specific GHG emission reduction plans" such as climate action plans or greenhouse gas emission reduction plans to provide a basis for the tiering or streamlining of project-level CEQA analysis (p. 26).

- **Compliance with Local Air District Thresholds**. A lead agency may rely on "existing numerical thresholds of significance for greenhouse gas emissions" adopted by, for example, local air districts (p. 27).

Therefore, consistent with CEQA Guidelines Appendix G, the three factors identified in CEQA Guidelines Section 15064.4 and the recently issued Newhall Ranch opinion, the GHG impacts would be considered significant if the project would:

- Conflict with a compliant GHG Reduction Plan if adopted by the lead agency;
- Exceed a quantitative GHG Reduction Threshold; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

3.3.4 - South Coast Air Quality Management District

SCAQMD Interim GHG Significance Thresholds

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. In addition, the SCAQMD identified several threshold approaches for development projects supported by substantial evidence indicating that GHG emissions at certain levels would result in less than significant impacts to climate change. Mixed-use and commercial projects with emissions under 3,000 $MTCO_2e$ could be assumed to not result in a significant impact. This threshold applies to AB 32 2020 targets. Several other threshold approaches were provided for projects that exceed the bright line screening threshold. No new threshold has been developed by the SCAQMD to address the new State targets included in SB 32 for 2030.

Southern California Association of Governments

Regional Transportation Plan

The SCAG region encompasses six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura) and 191 cities in an area covering more than 38,000 square miles. The agency develops long-range regional transportation plans including sustainable communities strategy and growth forecast components, regional transportation improvement programs, regional housing needs allocations and a portion of the South Coast Air Quality management plans. The RTP/SCS represents the vision for Southern California's future, including policies, strategies, and projects for advancing the region's mobility, economy, and sustainability through 2040. The plan details how the region will address its transportation and land use challenges and opportunities in order to achieve its regional emissions standards and Greenhouse Gas (GHG) reduction targets (SCAG 2016).

The 2016–2040 RTP/SCS updated the 2012–2035 plan and includes the following major strategies: preserving the existing transportation system; expanding the regional transit system; expanding passenger rail; improving highway and arterial capacity; managing demands on the transportation system; optimizing the performance of the transportation system; promoting walking and biking; strengthening the regional transportation network for goods movement; leveraging technology (e.g. mobility innovations to zero-emission vehicles); improving airport access; focusing new growth around transit; improving air quality and reducing GHGs; and preserving natural lands.

SB 375 required the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California, including SCAG. The target for the SCAG region is a per capita reduction in GHG emissions from passenger vehicle travel of eight percent by 2020 and 13 percent by 2035 relative to 2005 levels. The 2016 RTP indicates that the region will achieve the 2020 and 2035 targets with its adopted strategy (SCAG 2016). If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) must be prepared by SCAG. SB 375 streamlines CEQA requirements for specific residential and mixed-use developments that are consistent with the SCS or APS (as determined by ARB) to achieve regional GHG emissions reduction target.

3.3.5 - Local

The City of Lake Elsinore updated the General Plan in 2011 and included a Climate Action Plan with the update. The General Plan includes goals and policies to reduce GHG emissions that are listed below.

General Plan

The City of Lake Elsinore 2011 General Plan (City of Lake Elsinore 2011b) includes the following applicable goals and policies related to climate change impacts:

Chapter 4.0 Resource Protection and Preservation (Section 4.9 Sustainable Environment)

- **Goal 14:** Reduce greenhouse gas emissions from all activities within the City boundaries to support the State's efforts under AB-32 and to mitigate the impact of climate change on the City, State and world.
  - **Policy 14.1:** By 2020, the City will reduce greenhouse gas emissions from within its boundaries to 1990 levels consistent with AB 32.
  - **Policy 14.2:** Measures shall be established that aim to reduce emissions generated from City uses, community uses (community actions) and new development (City discretionary actions)**.**
  - **Policy 14.3:** The City shall strive to increase public awareness of climate change and climate protection challenges.
  - **Policy 14.4:** The City will participate in the Sustainable Communities Strategy/Regional Blueprint Planning effort to ensure that local plans are consistent with the Regional Plan**.**
  - **Implementation Program.** The City shall prepare, adopt and implement a Climate Action Plan that provides a baseline greenhouse gas emissions inventory for municipal facilities and operations and community-wide activities, analyzes the cost and benefits of methodologies for reduction, and establishes measures to meet State-wide reduction goals.

City of Lake Elsinore Climate Action Plan

The General Plan includes the City's Climate Action Plan. The Climate Action Plan includes strategies and measures that the City of Lake Elsinore will implement to achieve its GHG emissions targets over the next two decades. As described in the Climate Action Plan, the strategies and measures were selected to build on the policy direction set forth by the proposed General Plan, capitalize on existing emission reduction opportunities within the community, and maintain consistency with the AB 32 Scoping Plan.

Waste Diversion

With the passage of SB 1016, the Per Capita Disposal Measurement System, only per capita disposal rates are measured. Targets are based on the per capita disposal rates. For 2017, the target rate was 5.3 pounds per person per day and 23.3 pounds per employee per day. The City's disposal rates were well below the target rate per person per day in 2017. The rate reported was 4.5 pounds per person and 20.0 pounds per employee per day in 2017. The City has met the per capita target on a per-resident basis for each year of the last 3 reporting years (CalRecycle 2017a).

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SECTION 4: MODELING PARAMETERS AND ASSUMPTIONS

4.1—Model Selection and Guidance

Air pollutant emissions can be estimated by using emission factors and a level of activity. Emission factors represent the emission rate of a pollutant given the activity over time; for example, grams of NO_X per horsepower-hour or grams of NO_X per vehicle mile traveled. The ARB has published emission factors for on-road mobile vehicles/trucks in the EMFAC mobile source emissions model and emission factors for off-road equipment and vehicles in the OFFROAD emissions model. An air emissions model (or calculator) combines the emission factors and the various levels of activity and outputs the emissions for the various pieces of equipment.

The California Emissions Estimator Model (CalEEMod) version 2016.3.2 was developed by the South Coast Air Quality Management District in cooperation with other air districts throughout the State. CalEEMod is designed as a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with construction and operation from a variety of land uses.

The modeling follows District guidance where applicable from its Air Quality Analysis Handbook. The models used in this analysis are summarized as follows:

- Construction emissions: CalEEMod, version 2016.3.2
- Operational emissions: CalEEMod, version 2016.3.2

4.2—Air Pollutants and GHGs Assessed

4.2.1 - Criteria Pollutants Assessed

The following air pollutants are assessed in this analysis:

- Reactive organic gases (ROG)
- Nitrogen oxides (NO_X)
- Carbon monoxide (CO)
- Sulfur dioxide (SO_2)
- Particulate matter less than 10 microns in diameter (PM_{10})
- Particulate matter less than 2.5 microns in diameter ($PM_{2.5}$)

Note that the project would emit ozone precursors ROG and NO_X. However, the project would not directly emit ozone, since it is formed in the atmosphere during the photochemical reaction of ozone precursors. Other criteria pollutants such as vinyl chloride, hydrogen sulfide, lead, and sulfates were not included because of their low levels of emissions from the project.

As noted previously, the project would emit ultrafine particles. However, there is currently no standard separate from the $PM_{2.5}$ standards for ultrafine particles and there is no accepted methodology to quantify or assess the significance of such particles.

4.2.2 - Greenhouse Gases Assessed

This analysis is restricted to GHGs identified by AB 32, which include: carbon dioxide, methane, N_2O, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of GHGs, including several defined by AB 32 such as carbon dioxide, methane, and N_2O.

The project may emit GHGs that are not defined by AB 32. For example, the project may generate aerosols through emissions of DPM from the vehicles and trucks that would access the project site. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol. Studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (IPCC 2007a).

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities.

The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a GHG; however, unlike the other GHGs, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

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

4.3—Construction Modeling Assumptions

Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and prevailing weather conditions. Construction emissions result from on-site and off-site activities. On-site emissions principally consist of exhaust emissions from the activity levels of heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and application of architectural coatings would release VOC emissions. Off-site emissions are caused by motor vehicle exhaust from delivery vehicles, worker traffic, and road dust (PM_{10} and $PM_{2.5}$).

4.3.1 - Project Schedule

The project was assumed to begin construction in October 2020 with full buildout completed in 2023. First occupancy of the first phase was assumed to occur in 2021. The project was assumed to be completed in three phases. Site preparation, and mass grading was assumed to cover the entire site. Fine grading and building construction were modeled separately for each phase.

The CalEEMod default construction schedule and the default hours of equipment use were used for the analysis. The detailed construction schedule is provided in Appendix A. CalEEMod default construction equipment and equipment activity are based on surveys of construction projects of various sizes conducted for development in Southern California and may overstate equipment use

for larger project sites in regions outside of Southern California and should be considered highly conservative. The modeling assumptions can be reviewed in the modeling results included in Appendix A of this report.

4.3.2 - Construction Equipment Emission Factors

CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, age, horsepower, and equipment emission control level or tier from which rates of emissions are developed. The CalEEMod default equipment assumptions were used in this analysis for the estimation of emissions from on-site construction equipment. CalEEMod's off-road emission factors and load factors are from the ARB OFFROAD model.

4.3.3 - Site Preparation

Site preparation involves clearing vegetation (grubbing and tree/stump removal) and removing stones and other unwanted material or debris prior to grading. The site has been previously graded so limited site preparation is required. During site preparation, emissions are generated from the use of diesel construction equipment. Fugitive dust is generated during soil-disturbing activities and truck loading and unloading. The entire site was assumed to be mass graded at one time.

4.3.4 - Grading

During grading activities, fugitive dust can be generated from the movement of dirt on the project site. CalEEMod estimates dust from dozers moving dirt around, dust from graders or scrapers leveling the land, and loading or unloading dirt into haul trucks. Each activity is calculated differently in CalEEMod, based on the number of acres traversed by the grading equipment.

Only some pieces of equipment generate fugitive dust in CalEEMod. The CalEEMod manual identifies various equipment and the acreage disturbed in an 8-hour day:

- Crawler tractors, graders, and rubber tired dozers: 0.5 acre per 8-hour day
- Scrapers: 1 acre per 8-hour day

Therefore, the following acres are the total quantities disturbed per day, per phase, according to the acreage disturbed quantities listed above:

- Demolition = 1 acre per day
- Site preparation = 3.5 acres per day
- Grading = 2.5 acres per day

It was assumed that soil would be balanced on-site so no additional haul truck trips were included in the analysis.

4.3.5 - Building Construction, Paving, and Architectural Coatings

The analysis uses the default modeling assumptions from CalEEMod for construction equipment during building construction, paving, and application of architectural coatings. As previously discussed, the equipment hours for the building construction phases were adjusted to retain the CalEEMod default-generated horsepower hours.

4.3.6 - Construction Off-site Trips

Worker trips are accounted for during the construction phases, based on 1.25 trips per piece of equipment (the CalEEMod default). The CalEEMod default worker trip length of 10.8 miles was retained. The CalEEMod default vehicle fleet (LD Mix) was used for employee trips.

Vendor trips for the phase building construction are estimated with CalEEMod. The estimates in CalEEMod are calculated from a study performed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) based on land use and size. The CalEEMod defaults for vendor trips, trip length, and vehicle fleet (Heavy Duty Truck Vehicle Fleet Mix) were used.

4.4—Operation

Operational emissions are those emissions that occur when the project is occupied by the future residents. The major sources are summarized below.

4.4.1 - Motor Vehicles

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles that would travel to and from the project residences.

The analysis uses trip generation rates provided in the traffic impact study prepared for the project that were converted to trips per 1,000 square feet for use in CalEEMod 2016.2.3.

A pass-by trip accounts for vehicles already on the roadway network that stop at the project site as they pass-by; the pass-by trips are existing vehicle trips in the community. Pass-by-trips from the project traffic impact study were used in this analysis.

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. Emission factors are assigned to the expected vehicle mix as a function of vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The CalEEMod default vehicle fleet mix used for the analysis overstates the percentage of high emitting heavy-duty trucks for retail and residential development projects; therefore, use specific vehicle fleet mixes based on survey data from similar uses were used.

4.4.2 - Architectural Coatings (Painting)

Paints release VOC emissions during application and drying. The buildings in the project would be repainted on occasion. The project analysis used default settings in CalEEMod.

4.4.3 - Consumer Products

Consumer products are various solvents used in non-industrial applications, which emit VOCs during their product use. “Consumer Product” means a chemically formulated product used by household and institutional consumers, including but not limited to: detergents; cleaning compounds; polishes; floor finishes; cosmetics; personal care products; home, lawn, and garden products; disinfectants; sanitizers; aerosol paints; and automotive specialty products. It does not include other paint products, furniture coatings, or architectural coatings (ARB 2011b). The default emission factor developed for CalEEMod was used.

4.4.4 - Landscape Equipment

CalEEMod estimated the landscaping equipment using the default assumptions in the model.

4.4.5 - Electricity

Electricity used by the project (for lighting, etc.) would result in emissions from the power plants that would generate electricity distributed on the electrical power grid. Electricity emissions estimates are only used in the GHG analysis. CalEEMod was used to estimate these emissions from the project.

Electricity Emission Factor

The default CalEEMod emission factors for Southern California Edison (SCE) are as follows:

- Carbon dioxide: 630.89 lbs/MWh
- Methane: 0.029 lb/MWh
- Nitrous oxide: 0.006 lb/MWh

By 2020, SCE, the electric provider for the project will be required to achieve the 33 percent renewable portfolio standard (RPS). SCE had 16 percent renewable energy in its portfolio in 2006 (CEC 2007). Therefore, to achieve a 33-percent reduction as required by California's Renewable Electricity Standard, 17 percent more renewable energy in the utility's portfolio is needed. In 2020, the utility will achieve 33 percent renewable energy, which would decrease the emissions associated with electricity by 8.3 percent.

- Carbon dioxide: 578.23 pounds/MWh
- Methane: 0.027 pound/MWh
- Nitrous oxide: 0.005 pound/MWh

4.4.6 - Electricity Consumption

CalEEMod default factors for electricity consumption were used in the analysis. CalEEMod has three categories for electricity consumption: electricity that is impacted by Title 24 regulations, non-Title 24 electricity, and lighting. The Title 24 uses are defined as the major building envelope systems covered by California's Building Code Title 24 Part 6, such as space heating, space cooling, water heating, and ventilation. Lighting is separate since it can be both part and not part of Title 24. Since lighting is not considered as part of the building envelope energy budget, CalEEMod does not consider lighting to have any further association with Title 24 references in the program. Non-Title 24 includes everything else such as appliances and electronics. Total electricity consumption in CalEEMod is divided into the three categories. The model determines the percentage for each category using percentages derived from the CalEEMod default electricity intensity factors. The model then applies the percentages to the electricity consumption to provide the results used in the analysis.

4.4.7 - Natural Gas

The project would generate emissions from the combustion of natural gas for water heaters, heat, etc. CalEEMod has two categories for natural gas consumption: Title 24 and non-Title 24. CalEEMod defaults were used.

4.4.8 - Water and Wastewater

GHG emissions are emitted from the use of electricity to pump water to the project and to treat wastewater. CalEEMod defaults were used.

4.4.9 - Refrigerants

During operation, there may be leakage of refrigerants (hydrofluorocarbons) from air conditioners and the refrigeration system. Hydrofluorocarbons are typically used for refrigerants, which are long-lived GHGs. Small retail, office, and residential uses of refrigerants are relatively minor; therefore, they were not estimated.

4.4.10 - Solid Waste

GHG emissions would be generated from the decomposition of solid waste generated by the project. CalEEMod was used to estimate the GHG emissions from this source. The CalEEMod default for the mix of landfill types is as follows:

- Landfill no gas capture: 6%
- Landfill capture gas flare: 94%
- Landfill capture gas energy recovery: 0%

4.4.11 - Vegetation

There is currently limited carbon sequestration occurring on-site from existing vegetation. The project would plant trees and integrate landscaping into the project design, which would provide carbon sequestration. However, the number of trees to be planted is unknown and data are insufficient to accurately determine the impact that existing plants have on carbon sequestration. For this analysis, it was assumed that the loss and addition of carbon sequestration that are due to the project would be balanced; therefore, emissions due to carbon sequestration were not included.

SECTION 5: AIR QUALITY IMPACT ANALYSIS

This section calculates the expected emissions from construction and operation of the project as a necessary requisite for assessing the regulatory significance of project emissions on a regional and localized level.

5.1—CEQA Guidelines

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines effective December 28, 2018. A significant impact would occur if the project would:

a) Conflict with or obstruct implementation of the applicable air quality plan;

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

d) Result in other emissions (such as those leading to odors adversely affecting a substantial number of people.

While the final determination of whether a project is significant is within the purview of the lead agency pursuant to Section 15064(b) of the CEQA Guidelines, the District recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the lead agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts. The applicable District thresholds and methodologies are contained under each impact statement below.

5.2—Impact Analysis

5.2.1 - Consistency with Air Quality Plan

Impact AIR-1: The project may conflict with or obstruct implementation of the applicable air quality plan.

Impact Analysis

The CEQA Guidelines indicate that a significant impact would occur if the project would conflict with or obstruct implementation of the applicable air quality plan. This document proposes the following criteria for determining project consistency with the current AQPs:

1. Will the project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality

standards or the interim emission reductions specified in the AQPs? This measure is determined by comparison to the regional and localized thresholds identified by the SCAQMD.

2. Will the project comply with applicable control measures in the AQPs? The analysis will assess compliance with SCAQMD control measures applicable to development projects. The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. If a project results in a change in a designated land use and corresponding substantial increases in vehicle miles traveled (VMT), the resultant increase in VMT may be unaccounted for in regional emissions inventories contained in the AQMP, which as stated are based on local planning documents and general plans. Substantial increases in VMT that are not accounted for in the emissions inventory of these air quality plans may conflict with these air quality plans and therefore result in a contribution to the region's existing air quality nonattainment status.

Contribution to Air Quality Violations

A measure for determining if the project is consistent with the air quality plans is if the project would not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the air quality plans. Regional air quality impacts and attainment of standards are the result of the cumulative impacts of all emission sources within the air basin. Individual projects are generally not large enough to contribute measurably to an existing violation of air quality standards. Therefore, the cumulative impact of the project is based on its cumulative contribution. Because of the region's nonattainment status for ozone, $PM_{2.5}$, and PM_{10}—if project-generated emissions of either of the ozone precursor pollutants (ROG and NO_X), PM_{10}, or $PM_{2.5}$ would exceed the SCAQMD's significance thresholds—then the project would be considered to contribute to violations of the applicable standards and conflict with the attainment plans.

As discussed in Impact AIR-2 below, emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ associated with the construction and operation of the project would not exceed the District's significance thresholds. As shown in Impact AIR-2, the project would not result in CO hotspots that would violate CO standards. Therefore, the project would not contribute to air quality violations.

Compliance with Applicable Control Measures

The AQP contains a number of control measures, which are enforceable requirements through the adoption of rules and regulations. A description of rules and regulations that apply to this project is provided below. Other rules and regulations may apply depending on the operations ultimately take place at the site.

Rule 403 Fugitive Dust. Rule 403 includes a menu of fugitive dust control measures to which the project must adhere. The applicable measures are included as standard conditions of approval for this project. The rule addresses emissions from construction activities that disturb the soil, trackout and carryout of soil from the project site, trackout cleanup and windblown dust.

Rule 461 Gasoline Transfer and Storage. This rule applies to the transfer of gasoline from any tank truck, trailer, or railroad tank car into any stationary storage tank or mobile fueler, and from any stationary storage tank or mobile fueler into any mobile fueler or motor vehicle fuel tank. The rule requires the installation of vapor recovery systems. The project includes a gasoline fueling station with storage tanks and equipment subject to the rule.

Rule 1113—Architectural Coatings. The rule limits the volatile organic compound (VOC) content of architectural coatings by providing numeric standards for VOC concentrations per volume of coating. The applicability of this rule includes any person who applies or solicits the application of any architectural coatings used within the SCAQMD.

Rule 1186—Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations. The purpose of this rule is to limit VOC emissions from asphalt paving and maintenance operations. If asphalt paving will be used, then the paving operations will be subject to Rule 4641. This measure is enforced on asphalt providers.

The project would comply with all applicable SCAQMD rules and regulations. Therefore, the project complies with this criterion and would not conflict with or obstruct implementation of the applicable air quality attainment plan.

Consistency with AQMP Assumptions

The development of emission inventories used in air quality management plans to demonstrate compliance with ambient air quality standards is based, in part, on land use patterns contained within local general plans. Therefore, it is reasonable to conclude that if a project is consistent with the applicable general plan land use designation, and if the general plan was adopted prior to the applicable air quality management plan, then the growth of vehicle miles traveled (VMT) or population generated by said project would be consistent with the growth in VMT and population assumed within the air quality management plan. In this case, the project's Commercial Mixed Use land use designation was included in the City of Lake Elsinore General Plan adopted in 2011, prior to the SCAQMD 2016 AQMP. Therefore, the project is consistent with this criterion.

General Plan Consistency

A third criterion examined is the project's consistency with air quality related policies of the City of Lake Elsinore General Plan. The General Plan Program EIR includes an analysis of the policies related to air quality. Table 8 provides an assessment of the project's consistency with applicable policies.

Table 8: Consistency with General Plan Goals and Policies

General Plan Policy	Project Consistency
Community Form Policy 6.4. Maintain the system of bike lanes and multi-use trails throughout the City. Encourage the implementation of the network of Class I, II, and III bike lanes on all development projects through construction of the facility as described in the Bike Lane Master Plan and/or the Trails Master Plan	**Consistent.** The project is located on Grand Avenue, which is part of the City's existing regional trail system. Ortega Highway provides a Class II bikeway leading to the National Forest from Grand Avenue at the project site.

Table 8 (cont.): Consistency with General Plan Goals and Policies

General Plan Policy	Project Consistency
Community Form Policy 7.1. Encourage mixed-use developments to reduce public service costs and environmental impacts through compatible land use relationships, and efficient circulation and open space systems.	**Consistent.** The project is mixed-use with retail, restaurant, commercial, and residential uses. The project includes residences above commercial/retail and provides infill development, both of which help to conserve open space.
Public Safety and Welfare Goal 1. Continue to coordinate with the Air Quality Management District and the City's Building Department to reduce the amount of fugitive dust that is emitted into the atmosphere from unpaved areas, parking lots, and construction sites.	**Consistent.** The project will comply with Rule 403 fugitive dust regulations. Standard control measures have been included as mitigation measures to ensure that the developer is aware to the requirements.
Implementation Program. The City shall continue to condition projects to comply with the South Coast Air Quality Management District rules and regulations	**Consistent.** The project will comply with applicable SCAQMD rules. Compliance with Rule 403 requirements are included as project conditions of approval.
Resource Protection and Preservation Policy 14.2. Measures shall be established that aim to reduce emissions generated from City uses, community uses (community actions) and new development (City discretionary actions).	**Consistent.** The project will comply with City development standards applicable to the project that reduce emissions.
Source: City of Lake Elsinore General Plan 2011b.	

Conclusion

The project's emissions are less than significant for all criteria pollutants and would not result in inconsistency with the AQP for this criterion. The project's land use designation is Commercial Mixed Use, which is consistent with the City of Lake Elsinore 2011 General Plan and the planning assumptions used for the latest AQPs. The project complies with all applicable goals, policies, and implementation programs of the 2011 General Plan; therefore, the project is consistent with the AQP. However, in order to ensure that the project complies with the applicable SCAQMD control measures, mitigation measures were required to reduce the potential impact to less than significant levels.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM AIR-1a During site preparation and grading construction phases, all haul trucks transporting soil to or from the project site shall be covered to prevent fugitive dust emissions.

MM AIR-1b During project construction, the following measures shall be implemented to the satisfaction of the City of Lake Elsinore. Construction equipment maintenance records and data sheets of equipment design specifications (including the emission

control tier of the equipment) shall be kept on-site during construction and subject to inspection by the City of Lake Elsinore.

a) Construction equipment shall be properly maintained according to manufacturer specifications.
b) All contractors shall turn off all construction equipment and delivery vehicles when not in use, or limit on-site idling for no more than 5 minutes in any one hour.
c) On-site electrical hook ups to a power grid shall be provided for electric construction tools including saws, drills, and compressors, where feasible, to reduce the need for diesel-powered electric generators.
d) The project shall demonstrate compliance with South Coast Air Quality Management District (SCAQMD) Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Lake Elsinore.
e) Traffic speeds on all unpaved portions of the project site shall be reduced to 15 miles per hour or less.
f) Sweep streets at the end of the day if visible soil is carried onto adjacent public paved roads (recommend water sweepers with reclaimed water).
g) Use street sweepers that comply with SCAQMD Rules 1186 and 1186.1.

Level of Significance After Mitigation

Less than significant impact.

5.2.2 - Cumulative Criteria Pollutant Impacts

Impact AIR-2: **The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.**

Impact Analysis

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

1. Regional analysis: emissions of nonattainment pollutants must be below the District's regional significance thresholds. This is an approach recommended by the District in its Air Quality Analysis Handbook.

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

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants. This approach correlates the significance of the regional analysis with health effects, consistent with the court decision, *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219-20.

Regional Emissions

Air pollutant emissions have both regional and localized effects. This analysis assesses the regional effects of the project's criteria pollutant emissions in comparison to SCAQAMD thresholds of significance for short-term construction activities and long-term operation of the project. Localized emissions from project construction and operation are assessed under Impact AIR-3—Sensitive Receptors using concentration-based thresholds that determine if the project would result in a localized exceedance of any ambient air quality standards or would make a cumulatively considerable contribution to an existing exceedance.

Ozone is a secondary pollutant that can be formed miles from the source of emissions, through reactions of ROG and NO_X emissions in the presence of sunlight. Therefore, ROG and NO_X are termed ozone precursors. The Air Basin often exceeds the state and national ozone standards. Therefore, if the project emits a substantial quantity of ozone precursors, the project may contribute to an exceedance of the ozone standard. The Air Basin also exceeds air quality standards for PM_{10}, and $PM_{2.5}$; therefore, substantial project emissions may contribute to an exceedance for these pollutants. The SCAQMD's annual emission significance thresholds used for the project define the substantial contribution for both operational and construction emissions are provided in Table 9.

Table 9: SCAQMD Criteria Pollutant Threshold of Significance

Pollutants	Construction (pounds per day)	Operation (pound per day)
Oxides of nitrogen (NO_X)	100	55
Reactive organic gases (VOC)	75	55
Particulate matter (PM_{10})	150	150
Particulate matter ($PM_{2.5}$)	55	55
Oxides of sulfur (SO_X)	150	150
Carbon monoxide (CO)	550	550
Source: SCAQMD 2011.		

The project does not contain sources that would produce substantial quantities of SO_2 emissions during construction and operation. Modeling conducted for the project show that SO_2 emissions are well below the SCAQMD thresholds, as shown in the modeling results contained in Appendix A. No further analysis of SO_2 is required.

Construction Emissions

Construction emissions were modeled using the CalEEMod default construction schedule and equipment activity rates. The results of the modeling are presented in Table 10. The highest emissions that would occur in any year of construction activity were compared with the significance threshold. For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. The highest ROG emissions would occur during the application of architectural coatings during the Phase 3 condominium construction. The highest emissions of the other pollutants occur during site preparation and mass grading at the beginning of construction. The PM_{10} and $PM_{2.5}$ emissions reflect compliance with Rule 403 fugitive dust control measures. The CalEEMod mitigation

component is used to provide the emission reductions from watering required by rule compliance. As shown in Table 10, the emissions are below the significance thresholds in each construction year. Therefore, the emissions are less than significant on a project basis.

Table 10: Construction Air Pollutant Emissions Summary (Mitigated)

Construction Phase	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation and Mass Grading	4.43	45.64	22.86	10.72	6.72
Phase 1 Construction	11.35	22.78	17.64	4.13	2.53
Phase 2 Construction	19.78	26.43	21.60	4.39	2.73
Phase 3 Construction	23.19	24.78	18.47	4.28	2.63
Highest Construction Emissions in Any Year	**23.19**	**45.64**	**22.86**	**10.72**	**6.72**
Significance threshold (pounds/day)	75	55	500	150	55
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
PM_{10} and $PM_{2.5}$ emissions are from the mitigated output to reflect compliance with Rule 403—Fugitive Dust.
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Calculations use unrounded numbers.
Source: CalEEMod output (Appendix A).

Operational Emissions

Operational emissions occur over the lifetime of the project and are from two main sources: area sources and motor vehicles, or mobile sources. Construction of the project is expected to begin in October 2020 with full buildout completed as early as October 2023. Actual buildout is subject to market conditions.

For assumptions in estimating the emissions, please refer to Section 4, Modeling Parameters and Assumptions. The emissions modeling results for project operation are summarized in Table 11.

As shown in Table 11, the emissions are below the SCAQMD significance thresholds for the total emissions from all three project phases prior to application of mitigation measures or taking credit for project design features that would reduce project emissions. Therefore, operation of the project at buildout, would result in a less than significant impact from operational criteria pollutant emissions.

Table 11: Operational Air Pollutant Emissions (Unmitigated)

Source	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 1: Gas Station/Convenience Store, Automated Carwash, Fast-Food and Quick Serve Restaurant					
Area	0.47	0.00	0.00	0.00	0.00
Energy	0.08	0.71	0.60	0.05	0.05

Table 11 (cont.): Operational Air Pollutant Emissions (Unmitigated)

Source	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Mobile	16.41	9.52	93.84	16.09	4.36
Total Emissions Phase 1	**16.95**	**10.23**	**94.44**	**16.14**	**4.42**
Phase 2: Mixed Use Commercial/Condominiums					
Area	4.42	0.30	8.28	1.08	1.08
Energy	0.01	0.09	0.04	0.01	0.01
Mobile	1.33	1.60	12.89	3.80	1.03
Total Emissions Phase 2	**5.75**	**1.99**	**21.22**	**4.88**	**2.11**
Phase 3: Condominiums (66 Units)					
Area	18.88	1.43	39.01	5.07	5.07
Energy	0.04	0.38	0.16	0.03	0.03
Mobile	0.80	1.39	8.59	3.49	0.94
Total Emissions Phase 3	**19.72**	**3.20**	**47.76**	**8.60**	**6.05**
Total Emissions Entire Project	**42.43**	**15.43**	**165.08**	**29.62**	**12.57**
Significance threshold	55	55	500	150	55
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

Concurrent Maximum Daily Construction and Operations

The project is expected to be constructed in three phases. When projects are phased, a portion of the development will be operational while construction is still occurring. The SCAQMD recommends adding maximum daily construction emissions for each year to the cumulative operational emissions for each year for phased projects. Table 12 provides the concurrent maximum daily construction and operational emissions for each year.

Table 12: Concurrent Maximum Daily Construction and Operational Air Pollutant Emissions

Source	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2020 Construction	4.17	42.47	22.24	10.53	6.54
2020 Operations (None)	0.00	0.00	0.00	0.00	0.00
Total Construction and Operation	4.17	42.47	22.24	10.53	6.54

Table 12 (cont.): Concurrent Maximum Daily Construction and Operational Air Pollutant Emissions

Source	Emissions (pounds per day)				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
2021 Construction (Phase 2)	2.06	15.24	14.83	2.94	1.75
2021 Operations (Phase 1)	16.95	10.23	94.44	16.14	4.42
Total Construction and Operation	**19.02**	**25.47**	**109.27**	**19.08**	**6.16**
2022 Construction (Phase 3)	2.02	20.89	18.11	4.06	2.43
2022 Operations (Phases 1 and 2)	22.71	12.23	115.66	21.02	6.52
Total Construction and Operation	**24.72**	**33.12**	**133.77**	**25.08**	**8.95**
2023 Construction (Phase 3)	23.18	14.95	17.85	1.28	0.82
2023 Operations (Phase 1 and 2)	22.71	15.43	165.08	29.62	12.57
Total Construction and Operation	**45.89**	**30.38**	**182.93**	**30.91**	**13.39**
2023 Construction (Complete)	0.00	0.00	0.00	0.00	0.00
2023 Operations (Phase 1, 2 and 3)	42.43	15.43	165.08	29.62	12.57
Total Construction and Operation	**42.43**	**15.43**	**165.08**	**29.62**	**12.57**
Highest Year Construction and Operations for Each Pollutant	**45.89**	**42.47**	**182.93**	**30.91**	**13.39**
Significance threshold	55	55	500	150	55
Exceed threshold—significant impact?	No	No	No	No	No

Notes:
ROG = reactive organic gases NO_X = nitrogen oxides PM_{10} and $PM_{2.5}$ = particulate matter
Area source emissions include emissions from natural gas, landscape, and painting.
Source: CalEEMod output (Appendix A).

As shown in Table 12, the concurrent construction and operational emissions would not exceed SCAQMD daily operational thresholds for any pollutant for any year; therefore, the project impact would be less than significant for this criterion. The project fast-food restaurants were included in Phase 1 as a worst-case impact scenario, since the restaurants could be constructed before Phase 2 if funding becomes available earlier than expected. If the restaurants are constructed at a later date, maximum construction emissions will increase in that year, but concurrent operational emissions will decrease, since that component would not commence operations until construction is completed and would not result in an exceedance of the thresholds.

Step 2: Plan Approach

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

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those

> projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections analysis. The District attainment plans are based on a summary of projections that accounts for projected growth throughout the Air Basin, and the controls needed to achieve ambient air quality standards. This analysis considers the current CEQA Guidelines, which includes the amendments approved by the Natural Resources Agency, effective on December 28, 2018. The Air Basin is in nonattainment status for ozone and particulate matter (PM_{10} and $PM_{2.5}$), which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants.

The AQMPs describe and evaluate the future projected emissions sources in the SoCAB and set forth strategies to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. The 2016 AQMP is the most stringent plan in place in the SoCAB, and is based on land use and transportation assumptions developed for the SCAG 2016 RTP/SCS. Therefore, the 2016 AQMP is the relevant plan for a CEQA cumulative impacts analysis. See the plan consistency discussion under Impact AIR-1.

The geographic scope for cumulative criteria pollution from air quality impacts is the SoCAB, because that is the area in which the air pollutants generated by the sources within the basin circulate and are often trapped. The SCAQMD is required to prepare and maintain an AQMP for inclusion into the SIP to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SCAQMD does not have authority over land use decisions, it is recognized that changes in land use and circulation planning are part of a long-range strategy to attain and maintain clean air. The SCAQMD evaluated emissions in the entire SoCAB when it developed the AQMP.

Under the CEQA Guidelines, a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. As identified in Impact AIR-1, the project complies with the control measures in the 2016 AQMP and all of the SCAQMD's applicable rules and regulations. The project does not exceed the SCAQMD's CEQA significance thresholds, therefore, the project is consistent with the most recent AQMP for this criterion. Based on these factors, the project would result in a less than significant cumulative air quality impacts according to this criterion.

As discussed in Impact AIR-1, the project is consistent with all applicable control measures in the air quality attainment plans. The project would comply with any District rules and regulations that may pertain to implementation of the AQPs. Therefore, impacts would be less than significant with regard to compliance with applicable rules and regulations.

Project Health Impacts

When concentrations of ozone, PM_{10}, or $PM_{2.5}$ exceed the ambient air quality standard, then those sensitive to air pollution (such as children, the elderly, and the infirm) could experience health effects such as: decrease of pulmonary function and localized lung edema in humans and animals; increased mortality risk; and risk to public health, implied by altered connective tissue metabolism, altered pulmonary morphology in animals after long-term exposures, and pulmonary function decrements in chronically exposed humans. See Section 2.3—Existing Air Quality Conditions for additional correlation of the health impacts with the existing pollutant concentrations experienced in the Lake Elsinore area.

In the 5th District Court of Appeal case *Sierra Club v. County of Fresno (Friant Ranch, L.P.)*, the Court found the project EIR deficient because it did not identify specific health-related effects resulting from the estimated amount of pollutants generated by the project. The ruling stated that the EIR should give a "sense of the nature and magnitude of the 'health and safety problems' caused by a project's air pollution. The EIR should translate the emission numbers into adverse impacts or to understand why such translation is not possible at this time (and what limited translation is, in fact, possible)."

The standard measure of the severity of impact is the concentration of pollutant in the atmosphere compared to the ambient air quality standard for the pollutant for a specified period of time. The severity of the impact increases with the concentration and the amount of time that people are exposed to the pollutant. The change in health impacts with concentration is described in Table 3 and Table 4 using the EPA's Air Quality Index. The pollutants of concern in the Friant Ranch ruling were regional criteria pollutants ozone, and PM_{10}. It is important to note that the potential for localized impacts can be addressed through dispersion modeling. The SCAQMD developed screening criteria that if exceeded would require dispersion modeling to determine if project emissions would result in a significant localized health impact. For this project, no significant localized health impacts from criteria pollutants would occur. Regional pollutants require more complex modeling as described below.

Ozone concentrations are estimated using regional photochemical models because ozone formation is subject to temperature, inversion strength, sunlight, emissions transport over long distances, dispersion, and the regional nature of the precursor emissions. The emissions from only very large individual projects would produce a measurable change in ozone concentrations—it is the cumulative contribution of emissions from existing and new development that is accounted for in the photochemical model. Ozone concentrations vary widely throughout the day and year even with the same amount of daily emissions. The SCAQMD indicated in an Amicus Brief on Friant Ranch that it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_X by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_X or VOC emissions from relatively small projects. On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_X and VOCs, where impacts are regional. In addition, most project emissions are generated by motor vehicle travel distributed on regional roadways miles from the project site, and these

emissions are not conducive to project-level modeling to determine a change in pollutant concentrations. A copy of the SCAQMD brief is included in Appendix B.

Particulate emission impacts can be localized and regional. Particulates can be directly emitted and can be formed in the atmosphere with chemical reactions. Small directly emitted particles such as diesel emissions and other combustion emissions can remain in the atmosphere for a long time and can be transported over long distances. Large particles such as fugitive dust tend to be deposited a short distance from where emitted but can also travel long distances during periods of high winds. Particulates can be washed out of the atmosphere by rain and deposited on surfaces. Secondary particulates formed in the atmosphere such as ammonium nitrate require NO_X and ammonia, and they require low inversion levels and certain ranges of temperature and humidity to result in substantial concentrations. These complications make modeling project particulate emissions to determine concentration feasible only for directly emitted particles at receptor locations close to the project site. The 2016 AQMP ozone and $PM_{2.5}$ attainment demonstration has been developed using the U.S. EPA recommended CMAQ (version 5.0.2) modeling platform with SAPRC07 chemistry, and the Weather Research and Forecasting Model (WRF) (version 3.6) meteorological fields. The model analyses were conducted on an expanded domain, with increased resolution in the vertical structure and a 4 x 4 km horizontal grid size. Regional particulate concentrations are modeled using a gridded inventory (emissions in tons/day are placed a 4-kilometer, three-dimensional grid to spatially allocate the emissions geographically and vertically in the atmosphere) and an atmospheric chemistry component to simulate the chemical reactions. A small project would not produce sufficient emissions to determine a project's individual contribution to the particulate concentration using the currently available attainment models.

Step 3: Cumulative Health Impacts

The Air Basin is in nonattainment for ozone, PM_{10} (State only), and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as children, the elderly, and the infirm). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 1. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects. Table 2, Table 3, and Table 4 relate the pollutant concentration experienced by residents using air quality data for the nearest air monitoring station to the health impacts ascribed to those concentrations by the EPA Air Quality Index. This provides a more detailed look at the actual impacts currently experienced by area residents.

Since the Basin is nonattainment for ozone, PM_{10}, and $PM_{2.5}$, it is considered to have an existing significant cumulative health impact without the project. When this occurs, the analysis considers whether the project's contribution to the existing violation of air quality standards is cumulatively considerable. The SCAQMD regional thresholds for NO_X, ROG, PM_{10}, or $PM_{2.5}$ are applied as cumulative contribution thresholds. Projects that exceed the regional thresholds would have a cumulatively considerable health impact. As shown in Table 10 and Table 11, the regional analysis of

construction and operational emissions indicates that the project would not exceed the SCAQMD's significance thresholds and the project is consistent with the applicable Air Quality

The SCAQMD AQMD predicts that nonattainment pollutant emissions will continue to decline each year as regulations adopted to reduce these emissions are implemented, accounting for growth projected for the region. Therefore, the cumulative health impact will also decline even with the project's emission contribution.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.3 - Sensitive Receptors

Impact AIR-3: The project would not expose sensitive receptors to substantial pollutant concentrations.

Impact Analysis

Significance Threshold

Projects that exceed the following thresholds would result in a significant impact on sensitive receptors:

- Cause or contribute to an exceedance of any California or National Ambient Air Quality Standard;
- Exceed the health risk thresholds adopted by the SCAQMD

Sensitive Receptors

Those who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. Sensitive receptor are locations that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Examples of sensitive receptors include hospitals, residences, convalescent facilities, and schools. The nearest existing sensitive receptors are residences located across the property line west of the project site. The project includes residential condominiums that are considered on-site receptor locations. The nearest residences are 14 meters from the project boundary.

Localized Significance Threshold Analysis

The SCAQMD Governing Board adopted a methodology for calculating localized air quality impacts through localized significance thresholds (also referred to as an LST analysis). Localized significance thresholds represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable state or federal ambient air quality standard. Localized significance thresholds were developed in recognition of the fact that criteria pollutants

such as CO, NO_X, and PM_{10} and $PM_{2.5}$ in particular, can have local impacts at nearby sensitive receptors as well as regional impacts. The localized significance thresholds are developed for each source receptor area and are applicable to NO_X, CO, PM_{10}, and $PM_{2.5}$.

The localized assessment methodology limits the emissions in the analysis to those generated from on-site activities. The analysis is conservative in that it accounts for total project emissions, including off-site emissions during construction for comparison with the LST threshold. The results of the analysis are summarized in Table 13. As shown in Table 13, emissions during construction and operation would not exceed the localized significance thresholds upon compliance with Rule 403 Fugitive Dust requirements.

Table 13: Local Significance Threshold Analysis

Pollutants	Construction	Operation
Distance to Nearest Receptor (meters)	14	14
NO_X Analysis		
NO_X Threshold (lbs/day)	371	371
Project NO_X Emissions (lbs/day)	26.43	2.99
Significant?	**No**	**No**
CO Analysis		
CO Threshold (lbs/day)	750	750
Project CO Emissions (lbs/day)	21.85	12.80
Significant?	**No**	**No**
PM_{10} Analysis		
PM_{10} Threshold (lbs/day)	13	4
Project PM_{10} Emissions (lbs/day)	4.39	0.90
Significant?	**No**	**No**
$PM_{2.5}$ Analysis		
$PM_{2.5}$ Threshold (lbs/day)	8	2
Project $PM_{2.5}$ Emissions (lbs/day)	2.73	0.41
Significant?	**No**	**No**
Notes: Thresholds for Source Receptor Area 25 Lake Elsinore at less than 25 meters Receptor Location: Residences southwest of the project site Source: SCAQMD LST Appendix C Mass Rate LST Look Up Tables 2006–2008.		

Carbon Monoxide Hot Spots

The most recent 8-hour CO data for the project vicinity is from 2012 when the highest 8-hour concentration at the Lake Elsinore monitoring station was 0.52 ppm. The 8-hour emission federal standard for CO is 9 ppm. The 1-hour federal emission standard for CO is 35 ppm.

Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. The project would result in an increase in vehicles trips during construction and operational activities. The General Plan PEIR (City of Lake Elsinore 2011a) indicates that implementation of the General Plan Update would lead to progressive improvements to the circulation system such that no intersections would operate at an unacceptable level. As such, the project would facilitate the elimination of potential CO hot spots by contributing its fair share to improving intersections where substantial traffic congestion currently occurs. The BAAQMD developed a screening criterion for localized CO impacts provided in its CEQA Air Quality Guidelines (BAAQMD 2017). Projects with increased traffic volumes at affected intersections of 44,000 vehicles per hour would result in less than significant localized CO impacts. The project traffic study indicates that the project would result in an increase in 5,008 average daily trips and 378 cumulative peak-hour trips. Therefore, no CO hotspot modeling was conducted for the project. Based on this information, it is reasonable to conclude that the addition of project vehicle trips would not increase congestion to levels that could create a CO hotspot. It should be noted that CO concentrations have declined to the point where the entire State has attained the standard for this pollutant and it is not monitored in this area. Therefore, the project would not significantly contribute to an exceedance of state or federal CO standards.

Health Risk Impacts from Toxic Air Pollutant Emissions

The SCAQMD thresholds of significance for cancer and non-cancer risk are listed in Table 14.

Table 14: Health Risk Significance Thresholds

Impact	Health Risk Threshold
Cancer Risk	Maximally exposed individual receptor equals or exceeds 10 in one million
Non-Cancer Hazard Index	Maximally exposed individual receptor equals or exceeds 1.0
Source: SCAQMD 2015.	

Cancer risk is estimated based on long term exposure to carcinogenic compounds over 70 years. However, OHEHHA guidelines recommend assessing large construction projects that would expose sensitive receptors to substantial amounts of DPM for a period of three months or longer (OEHHA 2015). The project is a relatively small construction site. Grading and site preparation will require less than three months; therefore, no additional analysis is required to determine that the risk would be less than significant. The project includes a gasoline station that is a source of toxic air contaminants. The SCAQMD has a screening procedure to identify fueling stations with a potential for significant health risks.

Operation: Toxic Air Contaminants

The ARB Air Quality and Land Use Handbook contains recommendations that will “help keep California’s children and other vulnerable populations out of harm’s way with respect to nearby sources of air pollution” (ARB 2005), including recommendations for distances between sensitive receptors and certain land uses. In the *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) (Case No. S213478) the California Supreme Court held

that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a projects' future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions." Although the Court ruled that impacts from the existing environment on projects are not required to be addressed under CEQA, land uses such as gasoline stations, dry cleaners, distribution centers, and auto body shops can expose residents to high levels of TAC emissions if they are in proximity of the project site. Information regarding the location of existing TAC sources is provided for disclosure purposes only and not as a measure of the project's significance under CEQA.

Consistency with these recommendations is assessed as follows:

- Heavily traveled roads. ARB recommends avoiding new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. Epidemiological studies indicate that the distance from the roadway and truck traffic densities were key factors in the correlation of health effects, particularly in children. The project is located on Grand Avenue at Ortega Highway. The traffic volume on Grand Avenue north of Ortega Highway was 40,700 trips per day in 2005. The City recommends a 2 percent per year increase to account for growth, which would result in 52,910 daily trips by 2020 (City of Lake Elsinore 2019).
- Distribution centers. ARB also recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center. The project is not located within 1,000 feet of a distribution center.
- Fueling stations. ARB recommends avoiding new sensitive land uses within 300 feet of a large fueling station (a facility with a throughput of 3.6 million gallons per year or greater). ARB recommends a 50-foot separation is recommended for typical gas dispensing facilities. The project includes a gas station. The gasoline pumps are approximately 250 feet from the nearest off-site residence. The on-site second floor mixed-use residential is located approximately 223 feet from the gasoline pumps. The project is expected to pump less than 3.6 million gallons of fuel per year and so would not exceed the ARB criteria.
- Dry cleaning operations. ARB recommends avoiding siting new sensitive land uses within 300 feet of any dry-cleaning operation that uses perchloroethylene. For operations with two or more machines, ARB recommends a buffer of 500 feet. For operations with three or more machines, ARB recommends consultation with the local air district. The nearest dry-cleaning operation is approximately 2 miles northeast of the project site on Lakeshore Drive.
- Auto body shops. Auto body shops have the potential to emit TACs related to painting. The nearest auto body shop is located at 18425 Pasadena Street approximately 2.7 miles northeast of the project site, which is beyond the distance that would result in a measurable impact.

Health Risk from the Project Gasoline Station

The project is mixed-use with both residential and retail commercial land uses. The project includes a gasoline station that is source of toxic air contaminants (primarily benzene). The SCAQMD developed Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations in 2007 (SCAQMD 2007). The guidelines include screening tables based on throughput and the distance to the nearest sensitive receptor to determine if a project should prepare a full health risk assessment (HRA) using dispersion modeling to determine health risks from gasoline dispensing stations.

The project is expected to sell 1,800,000 gallons of gasoline per year. The nearest residential receptor will be the second-floor condominiums included in Phase 2 of the project. The receptors are located 68 meters from the nearest fueling position. Off-site receptors are more distant from the fueling station than the on-site receptor, so the on-site receptor location represents the maximum impacted receptor. The screening table includes cancer risks for many locations in the SoCAB. The location closest to the project site is the City of Riverside. The cancer risks are provided at various distances from 25 meters to 1,000 meters downwind of the gasoline station per 1,000,000 gallons per year throughput. The cancer risk per million gallons at 60 meters is 1.18 in one million. Therefore, the cancer risk at the project throughput is 2.12 in one million, which is less than the SCAQMD cancer risk threshold.

Health Risk from Other Sources

The project includes neighborhood commercial uses such as the gas station/convenience store, restaurants that receive deliveries from diesel trucks. The project does not include loading docks and truck parking. This indicates that most deliveries would be made by limited numbers of small to medium-size box trucks. Neighborhood commercial uses are not among the sources listed in ARB Air Quality and Land Use Handbook as sources of concern for siting near residential development. Therefore, no additional analysis is required.

Valley Fever

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The spores live in soil and can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

The number of suspected, probable, and confirmed cases of Valley Fever reported in California in 2017 was 796 cases and in 2018 was 1,959 cases. Riverside County reported 31 cases of Valley Fever cases in 2017 and 60 cases in 2018 (CDPH 2019). The Centers for Disease Control and Prevention indicates that 752 of the 8,657 persons (8.7 percent) hospitalized in California between 2000 and 2007 for Valley fever died (CDC 2009).

The distribution of *C. immitis* within endemic areas is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy. Listed below are ecologic factors and sites favorable for the occurrence of *C. immitis*:

1) Rodent burrows (often a favorable site for *C. immitis*, perhaps because temperatures are more moderate and humidity higher than on the ground surface)
2) Old (prehistoric) Indian campsites near fire pits
3) Areas with sparse vegetation and alkaline soils
4) Areas with high salinity soils
5) Areas adjacent to arroyos (where residual moisture may be available)
6) Packrat middens
7) Upper 30 centimeters of the soil horizon, especially in virgin undisturbed soils
8) Sandy, well-aerated soil with relatively high water-holding capacities

Sites within endemic areas less favorable for the occurrence of *C. immitis* include:

1) Cultivated fields
2) Heavily vegetated areas (e.g. grassy lawns)
3) Higher elevations (above 7,000 feet)
4) Areas where commercial fertilizers (e.g. ammonium sulfate) have been applied
5) Areas that are continually wet
6) Paved (asphalt or concrete) or oiled areas
7) Soils containing abundant microorganisms
8) Heavily urbanized areas where there is little undisturbed virgin soil (USGS 2000).

The project site is situated in a city growth area. The project includes urbanization of a site that was previously graded. Therefore, implementation of the project would have a low probability of the site having *C. immitis* growth sites and exposure to the spores from disturbed soil.

Valley fever, or coccidioidomycosis, is an infection caused by inhalation of the spores of the fungus, *Coccidioides immitis* (*C. immitis*). The fungus is known to live in the soil in the southwestern United States and parts of Mexico and Central and South America. The spores can live for an extended time in harsh environmental conditions. Activities or conditions that increase the amount of fugitive dust contribute to greater exposure, and they include dust storms, grading, and recreational off-road activities.

Although valley fever is not common in the urban areas, the valley fever spores have been found in Riverside County locations. The distribution of *C. immitis* is not uniform and growth sites are commonly small (a few tens of meters) and widely scattered. Known sites appear to have some ecological factors in common suggesting that certain physical, chemical, and biological conditions are more favorable for *C. immitis* growth. Avoidance, when possible, of sites favorable for the occurrence of *C. immitis* is a prudent risk management strategy.

The project site preparation and grading activities would disturb soil that was previously graded and would not provide suitable *C. immitis* habitat. In addition, limited activities that will disturb the soil would occur during the ground up construction process. The project will minimize the generation of fugitive dust during construction activities by complying with SCAQMD Rule 403. Therefore, this regulation combined with the low probability of the presence of valley fever spores would reduce valley fever impacts to less than significant.

During operations, dust emissions are anticipated to be negligible, because most of the project area would be occupied by buildings, pavement, and landscaped areas. This condition would preclude the possibility of the project from providing habitat suitable for *C. immitis* spores and for generating fugitive dust that may contribute to Valley fever exposure. Impacts would be less than significant.

Naturally Occurring Asbestos

According to a map of areas where naturally occurring asbestos in California are likely to occur (U.S. Geological Survey 2011), there are no such areas in the project area. Therefore, development of the project is not anticipated to expose receptors to naturally occurring asbestos. Impacts would be less than significant.

Impact Summary

The project would not exceed SCAQMD localized significance thresholds for criteria pollutants and is therefore, less than significant for this criterion. The project would not exceed cancer and non-cancer risk thresholds and is therefore, less than significant for this criterion. The project site is on previously disturbed soils with low potential to contain Valley fever spores and regulations to control fugitive dust are expected to further reduce the potential impact to less than significant levels. No demolition is required so asbestos in building materials is not a concern. The project is not in an area known to have naturally occurring asbestos and would be less than significant for this criterion.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

5.2.4 - Objectionable Odors

Impact AIR-4: The project would not create objectionable odors affecting a substantial number of people.

Impact Analysis

Thresholds of Significance

Odor impacts on residential areas and other sensitive receptors, such as hospitals, day-care centers, schools, etc. warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, worksites, and commercial areas.

Two situations create a potential for odor impact. The first occurs when a new odor source is located near an existing sensitive receptor. The second occurs when a new sensitive receptor locates near an existing source of odor. According to the *CBIA v. BAAQMD* ruling, impacts of existing sources of odors on the project are not subject to CEQA review. The project includes restaurants that could generate odors from cooking and residences that could be impacted by existing odor sources and project odor sources.

Project Analysis

Land uses that are typically identified as sources of objectionable odors include landfills, transfer stations, sewage treatment plants, wastewater pump stations, composting facilities, feed lots, coffee roasters, asphalt batch plants, and rendering plants. The project would not engage in any of these activities; however, restaurants included in the project sometimes generate cooking-related odors from charbroilers and other processes. No specific restaurant types have been identified for the project; however, fast-food restaurants are often located near residential development without issue. In the event that a restaurant causes odor complaints, the SCAQMD can take enforcement action under Rule 402. The SCAQMD's role is to protect the public's health from air pollution by overseeing and enforcing regulations (SCAQMD 2007b). The SCAQMD's resolution activity for odor compliance is mandated under California Health & Safety Code Section 41700, and falls under SCAQMD Rule 402. This rule on Public Nuisance Regulation states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".

During construction, the various diesel-powered vehicles and equipment in use on-site would create localized odors. These odors would be temporary and would not likely be noticeable for extended periods of time beyond the project's site boundaries. The potential for diesel odor impacts would therefore be less than significant.

The project is not expected to generate objectionable odors that would affect substantial numbers of people. In the event that unanticipated odors occur, regulations are available to reduce the impact to less than significant levels. Therefore, the project would not cause substantial odor impacts to the project.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

SECTION 6: GREENHOUSE GAS IMPACT ANALYSIS

6.1—CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on GHGs, the type, level, and impact of emissions generated by the project must be evaluated.

The following GHG significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97 and further amended on December 28, 2018. A significant impact would occur if the project would:

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

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

6.2—Impact Analysis

6.2.1 - Greenhouse Gas Inventory

Impact GHG-1: The project would generate direct and indirect greenhouse gas emissions; however, these emissions would not result in a significant impact on the environment.

Impact Analysis

Threshold of Significance

Section 15064.4(b) of the CEQA Guidelines' 2018 amendments for GHG emissions states that a lead agency may take into account the following three considerations in assessing the significance of impacts from GHG emissions.

- **Consideration #1**: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- **Consideration #2**: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- **Consideration #3**: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term

climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

The State is on track to achieve the 2020 target with adopted regulations and has adopted the 2017 Scoping Plan Update on December 14, 2017 that provides the State's strategy to achieve the SB 32 2030 target of a 40 percent reduction in emissions compared to 1990 levels. The ARB reported that the California GHG inventory for 2016 was below the 2020 target for the first time (ARB 2018). The 2017 Scoping Plan includes existing and new measures that when implemented are expected to achieve the SB 32 2030 target. The 2017 Scoping Plan includes substantial reductions beyond 2020 through continued implementation of existing regulations. Other regulations will be adopted to implement recently enacted legislation including SB 350, which requires an increase in renewable energy from 33 percent to 50 percent and doubling the efficiency of existing buildings by 2030. The Legislature extended the Cap-and-Trade Program through 2030. Cap-and-Trade provides a mechanism to make up shortfalls in other strategies if they occur (ARB 2017c). In addition, the strategy relies on reductions achieved in implementing the ARB Short-Lived Climate Pollutant (SLCP) Reduction Strategy to reduce pollutants not previously controlled for climate change such as black carbon, methane, and hydrofluorocarbons (HFCs) (ARB 2017b).

The City of Lake Elsinore adopted a climate action plan in 2011. The CAP includes specific measures to be implemented in new developments to reduce GHG emissions as well as a GHG emissions reduction target based on a community-wide emissions reduction to 6.6 $MTCO_2e$ per service population per year by 2020 and 4.4 $MTCO_2e$ per service population per year by 2030. The 2030 target is based on the emission targets from Executive Order S-3-05 and is intended to achieve substantial progress toward meeting the Executive Order S-3-05 2050 target of reducing emissions by 80 percent below 1990 levels. In light of the progress achieved to date, it is likely that the CAP will achieve its 2020 target on schedule. With the implementation of regulations stemming from the ARB 2017 Scoping Plan and continued implementation of the CAP, the 2030 target is also within reach.

In order to comply with Consideration #1, a quantitative assessment is provided to show the increase in GHG emissions compared to the existing environment. The site is currently vacant, so the baseline emissions for the existing environment are zero. The SCAQMD developed draft quantitative threshold approaches for achieving consistency with the AB 32 2020 targets. No new similar quantitative thresholds have been developed for the SB 32 2030 targets; therefore, no analysis for Consideration #2 is currently feasible. The analysis prepared for the project also includes a qualitative assessment of compliance with 2008 and the 2017 Scoping Plans and the CAP to support GHG significance findings under Impact GHG-2 to comply with Consideration 3.

Newhall Ranch

On November 30, 2015, the California Supreme Court issued its decision in *Newhall Ranch,* invalidating the GHG analysis for a large master planned residential development in Los Angeles County consisting of over 20,000 residential dwelling units and other uses. In particular, the Court upheld: (1) use of the statewide emissions reduction goal in AB 32 as a significance criterion (pp. 15–19), (2) use of the Scoping Plan's BAU model "as a comparative tool for evaluating efficiency and conservation efforts" of

the Project (pp. 18–19), and (3) a comparison of the project's expected emissions to a BAU model rather than a baseline of pre-project conditions (pp. 15–19). The Court invalidated the GHG analysis on the grounds that the "administrative record discloses no substantial evidence that the Newhall Ranch's project-level reduction of 31 percent in comparison to [BAU] is consistent with achieving AB 32's statewide goal of a 29 percent reduction from [BAU]." The Court indicated that a lead agency may use a BAU comparison based on the Scoping Plan's methodology if it also substantiates the reduction a particular project must achieve to comply with statewide goals. The Court suggested a lead agency could examine the "data behind the Scoping Plan's business-as-usual model" to determine the necessary project-level reductions from new land use development at the proposed location (p. 25). A lead agency "might assess consistency with A.B. 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities."

The Supreme Court was concerned that new development may need to do more than existing development to reduce GHGs to demonstrate that it is doing its fair share of reductions. As will be shown below, new development does do more than existing development and, because of the nature of the sources of GHG emissions related to development, existing development is equally responsible for reducing emissions from the most important sources of emissions (mobile sources and energy use). It is important to note that most of the State's regulatory program applies to both new and existing development.

As suggested by the Court, an analysis was prepared for this project that assesses "consistency with AB 32's goal in whole or part by looking to compliance with regulatory programs designed to reduce greenhouse gas emissions from particular activities." The analysis shows the extent to which the project complies with adopted regulations and the additional amount that will be achieved through project design features. At this point in time, no additional reductions are required from new development beyond regulations for the State to achieve its 2020 target. The recently adopted 2030 target will require a reduction from 431 $MTCO_2e$ to 260 $MTCO_2e$ or 40 percent from 1990 levels. After accounting for projected growth of approximately 0.8 percent per year an average decrease of 5.2 percent per year from the State GHG inventory will be required to achieve the target. The 2017 Scoping Plan Update includes a strategy for achieving the needed reductions, but does not identify an amount required specifically from new development. However, all GHG emission sources within development projects are subject to GHG regulations.

The quantitative analysis prepared for the project reflects the reductions achieved from adopted measures and on-site design features that reduce GHG emissions. The analysis describes the regulations that apply to the project and the percentage reduction in emissions that will be achieved through their implementation. New reduction strategies from the 2017 Scoping Plan Update are designed to close the gap between existing commitments and those needed to achieve the 2030 target, but most strategies must go through a regulatory process to be implemented. Therefore, the amount of reductions needed from new development beyond regulations, if any, is uncertain.

The primary measure of the significance of project GHG emissions is compliance with the CAP as recommended by the Court under the Newhall Ranch ruling. The analysis prepared for the project also includes qualitative assessments of compliance with 2008 Scoping Plan, the 2017 Scoping Plan Update to support GHG significance findings under Impact GHG-2. There are no new measures in the

Update that identify specific requirements on development projects, but the analysis shows how the applicable measures affect project emission sources.

Impact Analysis

Construction

Total GHG emissions generated during all phases of construction were combined and are presented in Table 15. Although construction emissions are temporary, the SCAQMD recommends that they should be included since they may remain in the atmosphere for years after construction is complete. In order to account for the construction emissions, amortization of the total emissions generated during construction were based on the life of the development (residential—30 years) and added to the operational emissions.

Table 15: Construction Greenhouse Gas Emissions (2020–2023)

Emissions	$MTCO_2e$ per year
Total All Phases	**1,196.91**
Amortized over 30 years	**39.90**

Note:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: CalEEMod output (Appendix A).

Operation

Operational or long-term emissions occur over the life of the project. Sources of emissions may include motor vehicles and trucks, energy usage, water usage, waste generation, and area sources, such as landscaping activities and residential wood burning.

Operational Emissions

Operational emissions were modeled using CalEEMod for the first year of operation for each phase, which is expected to occur between 2021 and 2023. CalEEMod assumes compliance with some, but not all, applicable rules and regulations regarding energy efficiency, vehicle fuel efficiency, renewable energy usage, and other GHG reduction policies, as described in the CalEEMod User's Guide (SCAQMD 2017). The reductions obtained from each regulation and the source of the reduction amount used in the analysis are described below.

Emissions Accounting for Applicable Regulations

The following regulations are incorporated into the CalEEMod emission factors:

- Pavley I and Pavley II (LEV III) motor vehicle emission standards
- ARB Medium and Heavy-Duty Vehicle Regulation
- 2005, 2008, 2013, and 2016 Title 24 Energy Efficiency Standards

The following regulations have not been incorporated into the CalEEMod emission factors and require alternative methods to account for emission reductions provided by the regulations:

- Renewable Portfolio Standards (RPS)
- Low Carbon Fuel Standard (LCFS)

- Green Building Code Standards (indoor water use)
- California Model Water Efficient Landscape Ordinance (Outdoor Water)

Pavley II/LEV III standards have been incorporated in the latest version of CalEEMod. ARB estimates a 3 percent reduction in 2020 and a 19 percent reduction from the vehicle categories subject to the regulation by 2030 (ARB 2010b and ARB 2013d).

The ARB GHG Regulation for Medium and Heavy-Duty Engines and Vehicles applies to trucks that will be accessing the project site. The benefits of the regulation were incorporated into CalEEMod 2016.3.2. The ARB estimates that this regulation will reduce GHG emissions from the affected vehicles by 7.2 percent (ARB 2013e).

The Low Carbon Fuel Standard (LCFS) is estimated to achieve a 10 percent reduction in emissions by 2020 and an 18 percent reduction by 2030 (ARB 2010). CalEEMod does not include credit for the LCFS, so the reduction is calculated off-model.

Title 24 reductions for 2013 and 2016 updates were added to CalEEMod 2016.3.2. The California Energy Commission (CEC) estimates that 2013 Title 24 standards would result in an increase in energy efficiency of 25 percent in residential buildings compared to 2008 Title 24 (CEC 2014a). An additional 28 percent reduction from the 2008 standards have been claimed for compliance with 2016 Title 24. This results in a combined reduction of about 46 percent (CEC 2015).

RPS is not accounted for in CalEEMod 2016.3.2. Reductions from RPS are addressed by revising the electricity emission intensity factor in CalEEMod to account for the utility RPS rate forecast for 2020 (CPUC 2016). The reduction assumes that SCE will achieve the 33 percent RPS mandated by 2020, which would provide an 8.3 percent reduction from 2006 levels. The utilities will be required by new legislation to increase the use of renewable energy sources to 50 percent, but details on individual utility compliance have not been determined.

Energy savings from water conservation resulting from the Green Building Code Standards for indoor water use and California Model Water Efficient Landscape Ordinance for outdoor water use are not included in CalEEMod. The Water Conservation Act of 2009 mandates a 20 percent reduction in urban water use that is implemented with these regulations (CDWR 2013). Benefits of the water conservation regulations are applied in the CalEEMod mitigation component.

Reductions in emissions from solid waste are based on the City achieving the CalRecycle 75 Percent Initiative by 2020 compared with a 50 percent baseline for 2005. Reductions are taken using the CalEEMod mitigation component.

Regulations applicable to project sources and the percent reduction anticipated from each source are shown in Table 16. The percentage reductions are only applied to the specific sources subject to the regulations. For example, the Pavley LEV Standards apply only to light duty cars and trucks.

Table 16: Reductions from Greenhouse Gas Regulations

Regulation	Project Applicability	Reduction Source	Percent Reduction in 2020/2030
Pavley Low Emission Vehicle Standards	Light-duty cars and trucks accessing the site are subject to the regulation.	CalEEMod defaults (Pavley I)	25.1[1]
		Adjusted GHG emission factor (Pavley II/LEV III) in CalEEMod.	3%/19.5%[2]
Truck and Bus Regulation	Heavy-duty trucks accessing the site for deliveries and services are subject to the regulation.	Adjusted GHG emission factors for the regulation in CalEEMod	7.2%[3]
Low Carbon Fuel Standard (LCFS)	Vehicles accessing the site will use fuel subject to the LCFS	CalEEMod defaults	10%/18%[1]
Title 24 Energy Efficiency Standards	Project buildings will be constructed to meet the latest version of Title 24 (currently 2019). Reduction applies only to energy consumption subject to the regulation.	CalEEMod defaults (only account for updates through 2016 Title 24 standards)	46%[4,5]
Green Building Code Standards	The project will include water conservation features required by the standard.	CalEEMod mitigation component	20%[6]
Water Efficient Land Use Ordinance	The project landscaping will comply with the regulation	CalEEMod mitigation component	20%[7]
Renewable Portfolio Standard (RPS)	Electricity purchased for use at the project site is subject to the 33 percent RPS mandate	CalEEMod adjusted energy intensity factors with SCE emission factors that show the company will achieve the 33 percent mandate.	8.3[8]
Solid waste	The solid waste service provider will need to provide programs to increase diversion and recycling to meet the 75 percent mandate.	CalEEMod mitigation component	25%[9]

Notes:
Regulations are described in Section 2.3 Regulatory Environment. The source of the percentage reductions from each measure are from the following sources:

1 Pavley 1 + Low Carbon Fuel Standard Postprocessor Version 1.0 User's Guide (ARB 2010b)
2 ARB Staff Report for LEV III Amendments (ARB 2013e)
3 ARB Staff Report for GHG Regulations for Medium and Heavy-Duty Engines and Vehicles (ARB 2013e)
4 California Energy Commission News Release: New Title 24 Standards Will Cut Residential Energy Use by 25 Percent, Save Water, and Reduce Greenhouse Gas Emissions (CEC 2014b)
5 California Energy Commission Adoption Hearing Presentation: 2016 Buildings Energy Efficiency Standards (CEC 2015)
6 2013 California Green Building Standards Code Section 5.303.2
7 California Water Plan Update 2013 (CDWR 2013)
8 Based on CalEEMod default SCE rate for 2006 and SCE projected emission factor for 2020
9 CalRecycle 75 Percent Initiative: Defining the Future (2016b)

In addition to rules and regulations, the project would incorporate design features and would obtain benefits from its location and existing infrastructure that would reduce project VMT compared with default values. The project would construct pedestrian infrastructure connecting internal and adjacent land uses and has direct access to the regional bikeways network. The project site is located on Riverside Transit Agency Route 8 along Grand Avenue, which connects to major retail and recreation opportunities. The project design features would result in reductions in energy use and support walking and bicycling. Measures that are part of the project design do not require additional mitigation measures to ensure they are accomplished.

Note that CalEEMod nominally treats these design elements and conditions as "mitigation measures," despite their inclusion in the project description. Therefore, reported operational emissions are considered to represent unmitigated project conditions. Full assumptions and model outputs are provided in Appendix A and results of this analysis for each project phase are presented in Table 17. As shown in Table 17, the project would increase GHG emissions by 4,262 $MTCO_2e$ per year.

Table 17: Project Operational Greenhouse Gas Emissions

Source	Emissions ($MTCO_2e$ per year)			
	Phase 1 (2021)	Phase 2 (2022)	Phase 3 (2023)	Total
Area	0.00	3.29	15.49	18.77
Energy	300.16	103.43	178.33	581.92
Mobile	2,489.91	543.19	473.83	3,506.93
Waste	45.69	9.24	11.45	66.38
Water	14.19	11.55	22.82	48.56
Total Operational Emissions	**2,849.96**	**670.69**	**701.92**	**4,222.56**
Amortized Construction Emissions				***39.90***
Total				**4,262.46**

Note:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: CalEEMod output (Appendix A).

The analysis presented above does not include the benefits of new strategies proposed in the 2017 Scoping Plan Update that will further reduce project emissions after commencing operations. The update provides alternatives in terms of their likelihood of implementation and ranges of reduction from the strategies. Measures already authorized by legislation are highly likely to be implemented, while measures requiring new legislation are less likely to go forward. The State is highly likely to incorporate zero net energy buildings in future updates to Title 24. A new round of motor vehicle fuel efficiency standards beyond 2025 when LEV III standards are at their maximum reduction level is highly likely. Changing heavy-duty trucks and off-road equipment to alternative fuels face greater technological hurdles and are less likely to provide dramatic reductions by 2030.

The 2030 emission limit is 260 $MMTCO_2e$. The ARB estimates that the 2030 BAU (reference) Inventory will be 392 $MMTCO_2e$—a reduction of 132 $MMCO_2e$, including existing policies and programs but not including known commitments that are already underway. The 2030 Scoping Plan Update includes the estimated GHG emissions by sector compared with 1990 levels that is presented in Table 18. The proposed plan would achieve the bulk of the reductions from Electric Power, Industrial fuel combustion, and Transportation. Cap-and-Trade would provide between 10 and 20 percent of the required reductions depending on the amounts achieved by the other reduction measures.

Table 18: 2030 Scoping Plan Update Estimated Change in GHG Emissions by Sector

Scoping Plan Sector	Emissions ($MMTCO_2e$ per year)		
	1990	2030 Proposed Plan Ranges	Percent Change from 1990
Agriculture	26	24–25	-4 to -8
Residential and Commercial	44	38–40	-9 to -14
Electric Power	108	42–62	-43 to -61
High GWP	3	8–11	167 to 267
Industrial	98	77–87	-11 to -21
Recycling and Waste	7	8–9	14 to 29
Transportation (including TCU)	152	103–111	-27 to -32
Net Sink	-7	TBD	TBD
Subtotal	**431**	**300–345**	**-20 to -30**
Cap-and-Trade Program	N/A	40–85	N/A
Total	**431**	**260**	**-40**
Source: ARB 2030 Scoping Plan Update (ARB 2017).			

Although 2017 Scoping Plan Update focuses on state agency actions necessary to achieve the 2030 GHG limit, the ARB considers local governments essential partners in achieving California's goals to reduce GHG emissions. The 2030 target will require an increase in the rate of emission reductions compared to what was needed to achieve the 2020 limit, and this will require action and collaboration at all levels, including local government action to complement and support State-level actions. For individual projects, the 2017 Scoping Plan Update suggests that all new land use development implement all feasible measures to reduce GHG emissions. The Scoping Plan does not define all feasible measures or attribute an amount of reductions required from new development beyond compliance with regulations. When requiring mitigation of a project's fair share of a cumulative impact, the Lead Agency must show the nexus between the project contribution and its fair share of mitigation to reduce the impact to less than cumulatively considerable. A threshold based on local support and collaboration with State actions as described in the 2017 Scoping Plan Update does not lend itself to a quantitative determination of fair share. Requiring developers and future residents of the development to fully mitigate emissions without accounting for compliance with regulations would result in double mitigation, first by the developer and then by the residents

and business owners purchasing electricity, fuel, and vehicles compliant with regulations in effect at the time of purchase and beyond that would violate constitutional nexus requirements.

In conclusion, a quantitative analysis was prepared showing the increase in GHG emissions compared to the existing environment, meeting the requirements of Consideration #1. The analysis identifies the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions by including the emission reductions from the regulations and requirements in the quantitative analysis. A qualitative analysis of consistency with the CAP, the 2008 Scoping Plan, and the 2017 Scoping Plan are provided under Impact GHG-2.

The CAP will continue to achieve post-2020 reductions as new development consistent with the CAP is built, and CAP consistency will continue to provide a valid basis for tiering or streamlining for a project-level CEQA analysis as supported by the Newhall Ranch Supreme Court ruling. Based on progress achieved to date and the strong likelihood that the measures included in the 2017 Scoping Plan Update will be implemented, it is reasonable to conclude that the project will continue to provide reductions after it becomes operational through compliance with increasingly stringent State regulations that apply to existing development, such as regulations on energy production, fuels, and motor vehicles that apply to both new and existing development; and voluntary actions to improve energy efficiency in existing development. In addition, compliance with the VMT targets adopted to comply with SB 375 and implemented through the RTP/SCS may be considered to adequately address GHG emissions from passenger cars and light-duty trucks. As shown in Table 18, the State strategy relies on the Cap-and-Trade Program to make up any shortfalls that may occur from the other regulatory strategies. The costs of Cap-and-Trade emission reductions will ultimately be passed on to the consumers of fuels, electricity and products produced by regulated industries which include future residents of development projects and other purchasers of products and services. Therefore, the impact in terms of Considerations #1 and #3 would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

6.2.2 - Greenhouse Gas Reduction Plans

Impact GHG-2: The project would not conflict with any applicable plan, policy, or regulation of an agency adopted to reduce the emissions of greenhouse gases.

Impact Analysis

The following analysis assesses the project's compliance with Consideration #3 regarding consistency with adopted plans to reduce GHG emissions. The City of Lake Elsinore adopted a CAP in 2011 that includes the GHG inventory, benchmarking, and goal-setting required to identify a reduction target and take advantage of the streamlining provisions contained in the CEQA Guidelines amendments

adopted for SB 97 and clarifications provided in the CEQA Guidelines amendments adopted on December 28 2018.

Projects consistent with the General Plan growth potential and CAP may tier from and/or incorporate the CAP by reference in their cumulative GHG impact analyses. The project is consistent with the General Plan and is therefore eligible to use the CAP for CEQA compliance. The CAP includes a project level CAP consistency worksheet to demonstrate consistency with the CAP. A CAP consistency worksheet for the project is provided in Table 19.

Climate Action Plan Consistency Analysis

The City of Lake Elsinore CAP consistency worksheet includes a series of questions that if answered affirmatively would demonstrate consistency with the CAP and help the City meet its commitments. As shown in Table 19, the project is consistent with the feasible and applicable policies.

Table 19: CAP Consistency Worksheet

CAP Measure	Project Consistency
1. Is the project consistent with the General Plan land use designation?	**Yes**. The site is designated for Mixed Use Commercial development.
2. Is the project consistent with the General Plan population and employment projections for the site, upon which the CAP modeling is based?	**Yes**. The site was designated prior to the adoption of the CAP.
3. Does the project incorporate the following CAP measures as binding and enforceable components of the project?	**Yes**. All applicable measures are enforceable by City Ordinance or State law.
T-1.2 Pedestrian Infrastructure	
Does the project provide sidewalks along new and reconstructed streets?	**Consistent**. The project will provide sidewalks along street frontage where they do not currently exist.
Does the project provide sidewalks or paths to internally link all uses in a project where applicable?	**Consistent**. The project site plan includes internal pedestrian infrastructure connecting the various uses.
Does the project provide connections to neighborhood activity centers, major destinations, and transit contiguous to site?	**Consistent.** The project site is located on Riverside Transit Agency Route 8 along Grand Avenue, which connects to major retail and recreation opportunities.
T-1.4 Bicycle Infrastructure	
Where applicable, does the project implement the network of Class I, II and II bikeways, trails and safety features identified in the General Plan, Bike Lane Master Plan, Trails Master Plan and Western Riverside County Non-Motorized Transportation plan?	**Consistent.** The project is served by streets with existing Class I and II bikeways. Grand Avenue south of project site has Class I/II striped bike lanes. Grand Avenue north of the project site and Ortega Highway are Class II bikeways.
Does the project, where applicable, provide connections to the network identified in those plans?	**Consistent.** The project connects to the regional bikeway network with the Grand Avenue Bikeway and the Ortega Highway Bikeway.

Table 19 (cont.): CAP Consistency Worksheet

CAP Measure	Project Consistency
T-1.5 Bicycle Parking	
Does new, non-residential development that is anticipated to generate visitor traffic provide permanently anchored bicycle racks within 200 feet of the visitor entrance, readily visible to passers-by, for 5% of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack?	**Consistent.** The project will install bike racks meeting City standards. The project is a mixed-use development. The gasoline station and convenience store portion of the project is designed to serve mostly motor vehicle users, but bike parking would be installed for the convenience store users who may access the site by bike. The fast-food restaurants are also automobile-oriented but will install bike parking in accordance with City standards. The measure is enforced during review of building plans.
Does the development propose a building with over 10 tenant spaces? If so, does it provide secure bicycle parking for 5% of tenant-occupied motorized vehicle parking capacity, with a minimum of one space?	**Not applicable.** The individual project businesses would not be expected to have 10 tenant parking spaces. Most parking is devoted to customers for short-term use.
T-2.1 Designated Parking for Fuel-Efficient Vehicles	
Does a non-residential development designate 10% of its total parking spaces for "Clean Air Vehicles?"	**Consistent.** The project development is mixed-use retail and residential with most parking intended for short-term use. Parking will meet CalGreen Code EV Clean Air vehicle parking requirements. The measure is enforced during review of building plans.
E-1.1 Tree Planting	
Does the developer provide a 15-gal non-deciduous, umbrella-form tree per 30 linear feet of boundary length, near buildings, or to shade pavement in parking lots and streets?	**Consistent.** The project will submit landscaping plans with trees reflecting compliance with this measure at appropriate locations on the site.
E-1.2 Cool Roof Requirements	
Does the new non-residential development use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index 3 per CalGreen Tier 1 values?	**Consistent.** The project will comply with the CalGreen Code requirements for solar reflectance. The measure is enforced during review of building plans.
E-1.3 Energy Efficient Building Standards	
Does new construction achieve CalGreen Tier 1 energy efficiency standards?	**Consistent.** The project will meet the current Title 24 Building Energy Efficiency Standards that are more efficient than CalGreen Tier 1 requirements in effect at the time the CAP was adopted. The City has incorporated CalGreen Building Code Standards into City Ordinance Chapter 15.42. The measure is enforced during review of building plans.
E-3.2 Energy Efficient Street and Traffic Signal Lights	
Does the project involve the installation of street or traffic signal lights? If so, are they Low Emitting Diode (LED) lights?	**Not applicable.** The project is not required to install streetlights or traffic signals.

Table 19 (cont.): CAP Consistency Worksheet

CAP Measure	Project Consistency
E-4.1 Landscaping	
Does the development comply with the City's AB 1881 Landscaping Ordinance?	**Consistent**. The project will comply with City Ordinance Chapter 19.08 Water Efficient Landscape Requirements. The project will submit a landscaping plan meeting the City Ordinance.
E-4.2 Indoor Water Conservation Requirements	
Does the development reduce indoor water consumption by 30%, consistent with CalGreen Tier 1, Section A5.303.2.3.1?	**Consistent.** The project will comply with CalGreen requirements for water conservation. The measure is enforced during review of building plans.
S-1.4: Construction and Demolition Waste Diversion	
Is the project accompanied by a waste management plan that demonstrates how 65% of the nonhazardous construction and demolition debris generated at the site will be recycled or salvaged?	**Consistent**. The project will submit a Waste Management Plan to comply with City Ordinance Chapter 14.12 Construction and Demolition Waste Management.
Source: City of Lake Elsinore 2011 CAP Appendix D (City of Lake Elsinore 2011c)	

AB 32 Scoping Plan

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the ARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan measures have been successfully implemented. The progress is evident in updated emission inventories prepared by ARB, which showed that the State inventory dropped below 1990 levels for the first time in 2016 (ARB 2018). The 2017 Scoping Plan Update includes projections indicating that the State will meet or exceed the 2020 target with adopted regulations (ARB 2017).

The project is consistent with the CAP and contributes to achieving the City of Lake Elsinore's fair share of reductions needed for the State to achieve AB 32 targets. The project promotes the goals of the Scoping Plan through its mixed-use design, and energy and water efficient buildings and infrastructure meeting the latest State standards. Therefore, the project does not conflict with any plans to reduce GHG emissions. The impact would be less than significant.

Consistency with California's Post-2020 Targets

The State's executive branch adopted several Executive Orders related to GHG emissions. Executive Orders S-3-05 and B-30-15 are two examples. Executive Order S-3-05 sets goals to reduce emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. The goal of Executive Order S-3-05 to reduce GHG emissions to 1990 levels by 2020 was codified by AB 32. The project, as analyzed above, is consistent with AB 32. Therefore, the project does not conflict with this component of Executive Order S-3-05.

The 2030 goal from Executive Order B-30-15 was codified under SB 32 and is now addressed by the 2017 Scoping Plan Update. The new plan provides a strategy that is capable of reaching the SB 32 target if the measures included in the plan are implemented and achieve reductions within the ranges expected. Under the Scoping Plan Update, local government plays a supporting role through its land use authority and control over local transportation infrastructure. The Plan Update includes reductions from implementation of SB 375 that applies to VMT from passenger vehicles. SB 375 is implemented with the SCAG 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). The RTP/SCS predicts that Riverside County would achieve GHG reductions of 8 percent by 2020, 18 percent reduction by 2035 (vs. the target of 13 percent), and 21 percent reduction by 2040. The RTP/SCS envisions an increase in development density that would encourage fewer and shorter trips and more trips by transit, walking, and bicycling in amounts sufficient to meet or exceed the SB 375 targets.

Now that the 2017 Scoping Plan has been adopted, new methodologies and threshold approaches may be developed to measure quantitative consistency with the 2030 target. In the meantime, however, the discussion under "Consistency with SB 32" below addresses the consistency of the proposed project with SB 32, which provides the statutory underpinning of the 2017 Scoping Plan. The SB 32 target requires GHG emissions to be reduced from 1990 levels. No consensus has been reached around the State on a new quantitative target for new development based on consistency with the SB 32 targets.

The Executive Order S-3-05 2050 target has not been codified by legislation. Studies have shown that, in order to meet the 2050 target, aggressive pursuit of technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. Because of the technological shifts required and the unknown parameters of the regulatory framework in 2050, quantitatively analyzing the project's impacts further relative to the 2050 goal is speculative for purposes of CEQA. (ARB 2014b).

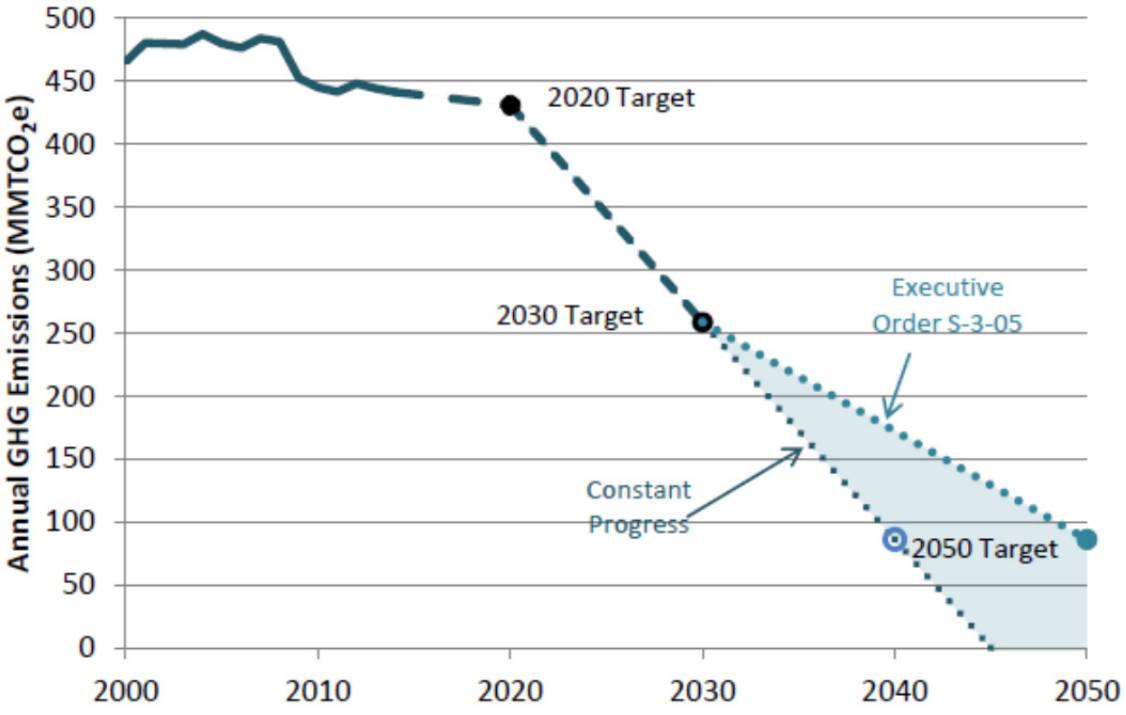
The ARB recognized that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [greenhouse gas emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's GHG emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate." In addition, ARB's First Update "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by ARB would serve to reduce the proposed project's post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the proposed project's emissions level. Additionally, further additions to California's renewable resource portfolio would favorably influence the project's emissions level.
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project's emissions level.

- **Water Sector:** The project's emissions level will be reduced as a result of further desired enhancements to water conservation technologies.
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the project's emissions level.

For the reasons described above, the project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the 2030 and 2050 targets. The trajectory required to achieve the post-2020 targets is shown in Figure 7.

Figure 7 California's Path to Achieving the 2050 Target



Source: ARB 2017 Scoping Plan Update (ARB 2017)

In his January 2015 inaugural address, Governor Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions:

- Increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030;
- Cutting the petroleum use in cars and trucks in half; and
- Doubling the efficiency of existing buildings and making heating fuels cleaner.

Regarding goals for 2050 under Executive Order S-3-05, it is not possible at this time to quantify the emissions savings from future regulatory measures, as they have not yet been developed;

nevertheless, it can be anticipated that operation of the project would comply with applicable measures enacted by state lawmakers to achieve an 80 percent reduction below 1990 levels by 2050.

Consistency with SB 32

The 2017 Climate Change Scoping Plan Update (2017 Scoping Plan) includes the strategy that the State intends to pursue to achieve the 2030 targets of Executive Order S-3-05 and SB 32. The 2017 Scoping Plan includes the following summary of its overall strategy for reaching the 2030 target:

- SB 350
  - Achieve 50 percent Renewables Portfolio Standard (RPS) by 2030.
  - Doubling of energy efficiency savings by 2030.
- Low Carbon Fuel Standard (LCFS)
  - Increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020).
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario)
  - Maintaining existing GHG standards for light- and heavy-duty vehicles.
  - Put 4.2 million zero-emission vehicles (ZEVs) on the roads.
  - Increase ZEV buses, delivery and other trucks.
- Sustainable Freight Action Plan
  - Improve freight system efficiency.
  - Maximize use of near-zero emission vehicles and equipment powered by renewable energy.
  - Deploy over 100,000 zero-emission trucks and equipment by 2030.
- Short-Lived Climate Pollutant (SLCP) Reduction Strategy
  - Reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030.
  - Reduce emissions of black carbon 50 percent below 2013 levels by 2030.
- SB 375 Sustainable Communities Strategies
  - Increased stringency of 2035 targets.
- Post-2020 Cap-and-Trade Program
  - Declining caps, continued linkage with Québec, and linkage to Ontario, Canada.
  - ARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.
- By 2018, develop Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Table 20 provides an analysis of the project's consistency with the 2017 Scoping Plan Update measures.

Table 20: Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
SB 350 50% Renewable Mandate. Utilities subject to the legislation will be required to increase their renewable energy mix from 33% in 2020 to 50% in 2030.	**Consistent**: The project will purchase electricity from a utility subject to the SB 350 Renewable Mandate.
SB 350 Double Building Energy Efficiency by 2030. This is equivalent to a 20 percent reduction from 2014 building energy usage compared to current projected 2030 levels	**Not Applicable**. This measure applies to existing buildings. New structures are required to comply with Title 24 Energy Efficiency Standards that are expected to increase in stringency until residential and non-residential development achieves zero net energy.
Low Carbon Fuel Standard. This measure requires fuel providers to meet an 18 percent reduction in carbon content by 2030.	**Consistent**. Vehicles accessing the project site will use fuel containing lower carbon content as the fuel standard is implemented.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario) Vehicle manufacturers will be required to meet existing regulations mandated by the LEV III and Heavy-Duty Vehicle programs. The strategy includes a goal of having 4.2 million ZEVs on the road by 2030 and increasing numbers of ZEV trucks and buses.	**Consistent**. Project residents and customers of project businesses can be expected to purchase increasing numbers of more fuel-efficient and zero-emission cars and trucks each year. The 2016 CALGreen Code requires electrical service in new single-family housing to be EV charger-ready. Home deliveries will be made by increasing numbers of ZEV delivery trucks. Parking lots in some cases are required to be wired to make them charger-ready.
Sustainable Freight Action Plan The plan's target is to improve freight system efficiency 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030. This would be achieved by deploying over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.	**Not Applicable**. The measure applies to owners and operators of trucks and freight operations. However, deliveries are expected to be made by increasing number of ZEV delivery trucks.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy. The strategy requires the reduction of SLCPs by 40 percent from 2013 levels by 2030 and the reduction of black carbon by 50 percent from 2013 levels by 2030.	**Consistent**. The project residences will include only natural gas hearths that produce very little black carbon compared with woodburning fireplaces and heaters.
SB 375 Sustainable Communities Strategies. Requires Regional Transportation Plans to include a sustainable communities strategy for reduction of per capita vehicle miles traveled. The targets for Riverside County are 8 percent by 2020 and 13 percent by 2035.	**Consistent**. The project will provide a mixed-use development that provides jobs and residences in the region that is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (SCS) strategy to increase development densities to reduce VMT. The project is not within an SCS priority area and so is not subject to requirements applicable to those areas.
Post-2020 Cap-and-Trade Program. The Post 2020 Cap-and-Trade Program continues the existing program for another 10 years. The Cap-and-Trade Program applies to large industrial sources such as power plants, refineries, and cement manufacturers.	**Consistent.** The post-2020 Cap-and-Trade Program indirectly affects people who use the products and services produced by the regulated industrial sources when increased cost of products or services (such as electricity and fuel) are transferred to the consumers.

Table 20 (cont.): Consistency with SB 32 2017 Scoping Plan Update

Scoping Plan Measure	Project Consistency
	The Cap-and-Trade Program covers the GHG emissions associated with electricity consumed in California, whether generated in-state or imported. Accordingly, GHG emissions associated with CEQA projects' electricity usage are covered by the Cap-and-Trade Program. The Cap-and-Trade Program also covers fuel suppliers (natural gas and propane fuel providers and transportation fuel providers) to address emissions from such fuels and from combustion of other fossil fuels not directly covered at large sources in the program's first compliance period.
Natural and Working Lands Action Plan. The ARB is working in coordination with several other agencies at the federal, state, and local levels, stakeholders, and with the public, to develop measures as outlined in the Scoping Plan Update and the governor's Executive Order B-30-15 to reduce GHG emissions and to cultivate net carbon sequestration potential for California's natural and working land.	**Not Applicable**. The project is mixed-use commercial and residential development and will not be considered natural or working lands.
Source: ARB 2017 Scoping Plan Update.	

Regarding goals for 2050 under Executive Order S-3-05, at this time it is not possible to quantify the emissions savings from future regulatory measures, as they have not yet been developed; nevertheless, it can be anticipated that operation of the project would comply with whatever measures are enacted that state lawmakers decide would lead to an 80 percent reduction below 1990 levels by 2050. In its 2008 Scoping Plan, ARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail." In the First Scoping Plan Update; however, ARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately." The 2017 Scoping Plan provides an intermediate target that is intended to achieve reasonable progress toward the 2050 target.

Accordingly, taking into account the proposed project's emissions, project design features, consistency with the CAP, and the progress being made by the State towards reducing emissions in key sectors such as transportation, industry, and electricity, the project would be consistent with State GHG Plans and would further the State's goals of reducing GHG emissions to 1990 levels by 2020, 40 percent below 1990 levels by 2030, and 80 percent below 1990 levels by 2050, and does not obstruct their attainment.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

6.3—Energy Impacts

Impact ENERGY-1: The project would not result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

Impact Analysis

Threshold of Significance

The CEQA Guidelines amendments adopted December 28, 2018 includes two new checklist questions related to projects use of energy. The CEQA Guidelines Section 15126.2(b) provides the following guidance for analyzing project energy impacts.

> "(b) Energy Impacts. If analysis of the project's energy use reveals that the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources, the EIR shall mitigate that energy use. This analysis should include the project's energy use for all project phases and components, including transportation-related energy, during construction and operation. In addition to building code compliance, other relevant considerations may include, among others, the project's size, location, orientation, equipment use and any renewable energy features that could be incorporated into the project. (Guidance on information that may be included in such an analysis is presented in Appendix F.) This analysis is subject to the rule of reason and shall focus on energy use that is caused by the project. This analysis may be included in related analyses of air quality, greenhouse gas emissions, transportation or utilities in the discretion of the lead agency."

Project Description

The project is a mixed-use residential and commercial development with energy use typical of similar developments throughout the region. The project will be served by SCE for electricity and by Southern California Gas for natural gas. No extensions of energy infrastructure and no new energy supplies beyond existing facilities are required to support the project. The project is an infill location in an area that is mostly developed.

Energy Consuming Equipment and Processes

The project will consume energy for construction and operation. During construction, diesel offroad equipment is used to prepare the site and construct the buildings. Construction employees use energy to travel to and from the project site; however, construction employees move from project to project in the region, so no new demand for energy from employee travel is created by the project. The soil is expected to be balanced on-site so no additional haul truck energy use is expected.

Operational energy consumption includes natural gas used for space heating, water heating, and cooking. Electricity may also be used for space heating, water heating, and cooking as well as lighting

and space cooling. Vehicles traveling to and from the site will use transportation fuels such as gasoline and diesel.

Energy Analysis

The energy analysis quantifies project energy use and assesses whether the use should be considered wasteful, inefficient, or unnecessary. The primary sources of data are the CalEEMod emission modeling results used in the air quality and greenhouse gas analysis and vehicle fuel use data from the EMFAC 2017 emission model. CalEEMod provides the hours of construction equipment use by equipment type. Fuel use for construction equipment is based on brake-specific fuel consumption factors developed by the EPA. CalEEMod provides the amount of natural gas and electricity expected to be used by the project.

Building Energy Use

The results of the analysis for project electricity and natural gas use are presented in Table 21.

Table 21: Project Building Energy Analysis

Project Land Use	Natural Gas Usage (therms)	Electricity Usage (kWh)
Phase 1		
Carwash	131,779	41,168
Conv Mkt Gas Station	7,228	41,123
QSR Restaurant	539,224	93,630
Fast-Food w/drive thru	1,968,770	341,856
Parking Lot	0	82,633
Total	**2,647,001**	**600,411**
Phase 2		
Condominiums	317,289	78,989
Parking Lot	0	24,165
Retail Shopping	38,184	217,236
Total	**355,473**	**320,390**
Phase 3		
Condominiums	**1,495,790**	**372,376**
Total All Project Phases		
Total	**4,498,264**	**1,293,176**
Source: Appendix A Modeling Results		

Discussion. The project will comply with Title 24 Building Energy Efficiency Standards in effect at the time building permits are issued. The current version is the 2019 Title 24 standards. Title 24 has increased energy efficiency substantially over the years. Reductions from the 2013 and 2016 Title 24 updates increased overall efficiency by 46 percent in residential projects making California homes some of the most energy efficient in the world. The project is also required to comply with the CalGreen Building Code requirements for efficient water use and solar ready construction and infrastructure to support alternative transportation modes. Compliance with California energy

efficiency regulations on new construction ensures that the buildings would not result in wasteful, inefficient, or unnecessary consumption of energy resources

Construction Energy Use

The next major source of energy use for the project is from the use of construction equipment to prepare the site for construction and to erect project buildings. The energy use from construction equipment for each phase is provided in Table 22.

Table 22: Project Construction Equipment Energy Use

Activity	Hours of Equipment Use	Diesel Fuel Used (Gallons)
Site Preparation/Mass Grading	560	1,928
Phase 1 Grading and Construction	22,720	46,818
Phase 2 Grading and Construction	9,310	16,654
Phase 3 Grading and Construction	17,068	33,772
Total All Construction Phases	**40,408**	**99,172**
Source: Appendix A Modeling Results		

Discussion. Project construction activities must use equipment with sufficient power to accomplish the work required. Diesel engines are highly efficient in conducting this work and currently represent the most efficient use of energy for this purpose. Some initiatives are underway to create diesel electric hybrid equipment and electric equipment, but actual equipment available for use other than diesel is very limited. Small handheld equipment is often powered by electricity. The project would use line power to provide energy to electric tools and equipment as opposed to diesel or gasoline generators as early in the construction process as possible. Using equipment meeting the State's off-road equipment regulations does not result in wasteful, inefficient or unnecessary consumption of energy resources.

Onroad Motor Vehicle Energy Consumption

The project will generate motor vehicle travel from residents, customers, and employees accessing the project site. An estimate of project fuel use from CalEEMod VMT and EMFAC 2017 fuel consumption rates is provided in Table 23.

Table 23: Onroad Mobile Energy Consumption

Project Phase	VMT/Year	Fuel Used (Gallons/Year)
Phase 1	7,090,376	308,115
Phase 2	1,678,360	72,934
Phase 3	1,538,151	66,841
Total for Project	**10,306,887**	**447,890**
Source: Appendix A Modeling Results		

Discussion. The project's largest source of energy use is from motor vehicles accessing the project site. The amount of fuel use is based on the composite vehicle fleet mix for all types of vehicles for Riverside County and the project VMT from the CalEEMod modeling results for each phase. The actual fuel efficiency of the vehicles accessing the site will depend on the customers, employees, and residents of the project. They can be expected to purchase new more fuel-efficient vehicles at the same or similar rate as other customers, employees, and residents at existing development in Riverside County. The CalEEMod model includes estimates of increased fuel efficiency predicted for the implementation of the Pavley LEV III/Advanced Clean Car Program. The ARB expects an increase in passenger car fuel efficiency of 28 percent by 2020 compared with efficiency without the regulations. The project is a mixed-use project with access to bicycle and pedestrian infrastructure, and transit service that is expected to provide reductions in VMT compared with less favorably designed and located development. This will help Riverside County meets its SB 375 target of reducing per capita VMT by 8 percent by 2020 and 13 percent by 2035. Based on these factors, the project would not result in in wasteful, inefficient, or unnecessary consumption of energy resources.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

Impact ENERGY-2: The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

Impact Analysis

Threshold of Significance

In order to conflict with or obstruct a state or local plan for renewable energy or energy efficiency the project would have to include uses that require a substantial increase in non-renewable energy compared to what was planned or somehow prevent the City or the State from using renewable energy.

The City of Lake Elsinore does not have a local energy plan. The State has adopted several energy plans that promote affordable energy supplies, improve energy reliability, and enhance health, economic well-being and environmental quality.

The California Energy Commission Strategic Plan sets goals for the CEC for Energy policy development, information resources, research and development, power plan siting, building and appliance standards, transportation, and renewable energy. This plan provides guidance to CEC staff on the agencies vision for achieving the state's energy goals (CEC 2014). No actions applicable to individual cities or development projects are included in the plan.

The California Public Utilities Commission (CPUC) California Long Term Energy Efficiency Strategic Plan (CEESP) adopted in September 2008. This Plan sets forth a roadmap for energy efficiency in

California through the year 2020 and beyond. It articulates a long-term vision and goals for each economic sector and identifies specific near-term, mid-term and long-term strategies to assist in achieving those goals. (CPUC 2008). The plan provides a comprehensive approach including regulations, incentives, and coordination with local government programs. Although cities are encouraged to adopt standards that exceed regulation, they are not mandatory. Standards applicable to new development would increase in a stair-step fashion during the planning period with a goal of reaching zero net energy development. The project will comply with the most recent energy efficiency standards and would not conflict with or obstruct the successful implementation of this plan.

The CPUC Residential New Construction Zero Net Energy (ZNE) Action Plan (Action Plan or the Plan) is designed to operationalize the CEESP's goal to have 100 percent of new homes achieve ZNE beginning in 2020 The Action Plan provides a foundation for the development of a robust and self-sustaining ZNE market for new homes over the next six years, supports future codes and standards for ZNE, and inspires voluntary actions to meet the State's goal. Further, the Action Plan will be a living document subject to ongoing updates and refinements to help address the changing environment, technology advances, and the State's needs (CPUC 2015). The project is subject to 2019 Title 24 Standards, which include requirements to add solar panels to new residential development projects. Therefore, the project is contributing toward implementation of this plan and would not conflict with or obstruct the plan.

The project would not conflict with the any local or State energy plan; therefore, the project would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant impact.

SECTION 7: REFERENCES

The following references were used in the preparation of this analysis and are referenced in the text and/or were used to provide the author with background information necessary for the preparation of thresholds and content.

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Appendix A: Modeling Assumptions and Results

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Appendix A: Modeling Assumptions

Lake Elsinore Bamiyan Mixed Use Development

Acreage	12.56	Gross	
APNs	381-320-023		
	381-320-020		
			3 phases are to be conducted consecutively
Site Preparation	11.85	net	Entire site mass graded during site preparation

Building Statistics

Phase 1	**SF**	**Acres**	**Gasoline (gal/yr)**	
AM PM Gas Station	4,354	0.1000	1,800,000	
Canopy for Gas Pumps	6,054			
Car Wash	4,056	0.0931		
QSR FF Restaurant	1,972	0.0453		
FF Restaurants with DT (3)	7,200	0.1653		2,400 sf each
Total Building SF	**23,636**	**0.4036**		
Phase 1 Site Area		5.83	Measured using Google Earth	
Parking		5.4264		

FF Rest w DT were modeled in Phase 1 since it is possible that the restaurants could be built earlier if funding becomes available.

Phase 2	**KSF**	**Acres**	**DU**
Retail Condo Footprint	17,200	0.3949	14
Retail Condo Site Area		1.9800	
Parking		**1.5851**	
		479	

Phase 3	**Units**	**Acres**
Condominiums	66	3.95
Club House (SF)	1895	

Cut and Fill
Export
Truck Loads @ 20 tons/load

Employee Estimates

	SF/emp	**Projecte SF**	**Employees**
Neighorhood Commercial	588.00	4354	7.4
Carwash	588.00	4056	6.9
QSR Restaurant	70.00	1972	28.2
FF Restaurant w Drive Thru	90.00	7200	80.0
Neighborhood Commercial	588.00	17,200	29.3
Total Employees			**151.7**

Condos Population		
Phase 2	14 units	40
Phase 3	66 units	189
		229
Service Population		**380.7**

TIS Trip Generation Rate
Phase 1

	ITE Code	Unit	ADT	Trips/KSF	Pass by
Gas Station w Conv Market	960	20 VFP	3,256	162.80	56%
QSR FF Restaurant	933	1960 KSF	679	346.43	50%
Automated Carwash	948	3.690 KSF	621	168.29	56%
			4,556		

Phase 2

Retail General	814	20.0 KSF	887	44.35	
Residential Condos	220	20 DU	147	7.35	
Fast Food w Drive thru	934	2.238 KSF	1,054	470.96	50%
Fast Food w Drive thru	934	2.238 KSF	1,054	470.96	50%
Fast Food w Drive thru	934	2.238 KSF	1,054	470.96	50%

Phase 3

Residential Condos	220	66	484	7.33	

Project square feet differs slightly since TIS was based on an earlier site plan.

Monitoring Stations

Lake Elsinore 506 W. Flint St	Ozone	NO 2.9 mi NE
Riverside Rubidoux	PM10	5888 Mission Blvd Riverside 23.6 miles N
Perris	PM2.5	237 1/2 D St. Perris, CA 925 12.51 mi. NE

Lake Elsinore SRA 25

Electricity by SCE
Gas by SCG

Appendix A

Truck Fleet Mix Spreadsheet

Truck Trip Fleet Mix Estimate

Truck Trips by Trip Purpose

Fuel Deliveries

Fueling Throughput Max	4,932	Gallons/Day
Average Annual Throughput	1,800,000	Gallons/Year ARCO Estimated Volume
Fueling Truck Capacity (gallons)	5,500	
Fueling Truck Deliveries/Year	327	
Fueling Truck Trips/year	655	
Fueling Truck Trips/Day	1.8	

Convenience Market

Medium Heavy Duty Trucks (MHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Beverage Trucks	5	0.71	1.43
Dry Goods	2	0.29	0.57
Snacks	5	0.71	1.43
Refrigerated Trucks (milk, other)	3	0.43	0.86
Total	**15**	**2.14**	**4.29**

Heavy Duty Trucks (HHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Corporate Deliveries	1.00	0.14	0.02
Refuse Hauler		2.00	0.29
Fueling Trucks		0.90	1.80
Total	**1.00**	**3.04**	**2.11**

Restaurant - QSR FF

Medium Heavy Duty Trucks (MHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Beverage Trucks	1	0.14	0.29
Food and Supplies	2	0.29	0.57
Total	3	0.43	0.86

Heavy Duty Trucks (HHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Corporate Deliveries	1	0.14	0.29

FF Restaurant with Drive Through

Medium Heavy Duty Trucks (MHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Beverage Trucks	1	0.14	0.29
Food and Supplies	3	0.43	0.86
Total	**4**	**0.57**	**1.14**

Heavy Duty Trucks (HHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Corporate Deliveries	1.00	0.14	0.29

Automated Carwash

Medium Heavy Duty Trucks (MHDT)	**Deliveries/ Week**	**Deliveries/ Day**	**Trips/Day**
Car wash supplies	1	0.14	0.29
Total	**1**	**0.14**	**0.29**

Project Fleet Mix Allocation

Convenience Market with Gas Pumps
Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Retail	Gas Station Cc	20	Fueling Positions
		162.80	Trips/FP

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
Gas Station Convenience Store	Gas Station	162.80	162.80	162.80	162.80	20	3256
Total Trips							3256

Adjusted Fleet Mix for No HDT Trucks	LDA	LDT1	LDT2	MDV	Total
Default Fleet Mix	0.538064	0.038449	0.18439	0.122109	0.883012
Adjusted Fleet Mix	0.590794	0.042217	0.202460	0.134076	0.969547
					0.086535

	LHD1 Frac	LHD2 Frac	MHD Frac	HHD Frac	OBUS	UBUS	SBUS	Diff to Allocate
New Fleet Allocation	**0.01740**	**0.00534**	**0.00132**	**0.00065**	0	0	0	0.02470
Default Frac	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.000959	0.111239
Allocation Fraction	**0.000000**	**0.000000**	**0.015934**	**0.067064**	**0.001365**	**0.001213**	**0.000959**	**0.086535**

2020 CalEEMod Default Fleet Mix for Riverside County

	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Default Fleet Mix	FleetMix	0.538064	0.038449	0.18439	0.122109	0.017402	0.005339	0.01725	0.067711	0.001365	0.001213	0.004629	0.000959	0.00112	
Revised Fleet Mix		**0.590794**	**0.042217**	**0.202460**	**0.134076**	0.017402	0.005339	**0.00132**	**0.00065**	0	0	0.004629	0	0.00112	1.000000

Truck Trip CalEEMod Input

	Trips/Day	Fleet Fraction
HHD Trucks Trips/Day	2.11	0.000647
MHD Trucks Trips/Day	4.29	0.001316
Total Truck Trips/Day	6.39	
Trip Generation All Vehicle Types	**3256**	

Fast Food Restaurants

Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Recreation	FF Rest w DT	2403	KSF
		470.96	Trips/KSF

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
Restaurant	FF Rest w DT	162.80	162.80	162.80	162.80	2403	391208.4
Total Trips							391208.4

Adjusted Fleet Mix for No HDT Trucks	LDA	LDT1	LDT2	MDV	Total
Default Fleet Mix	0.542116	0.037578	0.185203	0.118503	0.8834
Adjusted Fleet Mix	0.597096	0.041389	0.203986	0.130521	0.972993
					0.089593

	LHD1 Frac	LHD2 Frac	MHD Frac	HHD Frac	OBUS	UBUS	SBUS	Diff to Allocate
New Fleet Allocation	**0.01624**	**0.00514**	**0.00000**	**0.00000**	0	0	0	0.02139
Default Frac	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.000945	0.110980
Allocation Fraction	**0.000000**	**0.000000**	**0.017389**	**0.068693**	**0.001383**	**0.001183**	**0.000945**	**0.089593**

2021 CalEEMod Default Fleet Mix for Riverside County

	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Default Fleet Mix	FleetMix	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038	
Revised Fleet Mix		**0.597096**	**0.041389**	**0.203986**	**0.130521**	0.016241	0.005141	**0.000003**	**0.000002**	0	0	0.004582	0	0.001038	1.000000

Truck Trip CalEEMod Input

	Trips/Day	Fleet Fraction
HHD Trucks Trips/Day	0.86	0.000002
MHD Trucks Trips/Day	1.14	0.000003
Total Truck Trips/Day	2.00	
Trip Generation All Vehicle Types	**391208.4**	

QSR Restaurants

Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Recreation	FF Rest no DT	1.96	KSF
		346.43	Trips/KSF

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
QSR Restaurant	FF Rest no DT	346.33	346.33	346.33	346.33	1.96	678.8068
Total Trips							678.8068

Adjusted Fleet Mix for No HDT Trucks	LDA	LDT1	LDT2	MDV	Total
Default Fleet Mix	0.538064	0.038449	0.18439	0.122109	0.883012
Adjusted Fleet Mix	0.590964	0.042229	0.202519	0.134114	0.969826
					0.086814

	LHD1 Frac	LHD2 Frac	MHD Frac	HHD Frac	OBUS	UBUS	SBUS	Diff to Allocate
New Fleet Allocation	**0.01740**	**0.00534**	**0.00126**	**0.00042**	0	0	0	0.02442
Default Frac	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.000959	0.111239
Allocation Fraction	**0.000000**	**0.000000**	**0.015987**	**0.067290**	**0.001365**	**0.001213**	**0.000959**	**0.086814**

2020 CalEEMod Default Fleet Mix for Riverside County

	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Default Fleet Mix	FleetMix	0.538064	0.038449	0.18439	0.122109	0.017402	0.005339	0.01725	0.067711	0.001365	0.001213	0.004629	0.000959	0.00112	
Revised Fleet Mix		**0.590964**	**0.042229**	**0.202519**	**0.134114**	0.017402	0.005339	**0.001263**	**0.000421**	0	0	0.004629	0	0.00112	1.000000

Truck Trip CalEEMod Input

	Trips/Day	Fleet Fraction
HHD Trucks Trips/Day	0.29	0.000421
MHD Trucks Trips/Day	0.86	0.001263
Total Truck Trips/Day	1.14	
Trip Generation All Vehicle Types	**678.8068**	

Automated Carwash

Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Automated Carwash	Car Wash	1.96	KSF
		346.43	Trips/KSF

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
QSR Restaurant	FF Rest no DT	346.33	346.33	346.33	346.33	1.96	678.8068
Total Trips							678.8068

Adjusted Fleet Mix for No HDT Trucks	LDA	LDT1	LDT2	MDV	Total
Default Fleet Mix	0.538064	0.038449	0.18439	0.122109	0.883012
Adjusted Fleet Mix	0.608412	0.043476	0.208498	0.138074	0.998459
					0.115447

	LHD1 Frac	LHD2 Frac	MHD Frac	HHD Frac	OBUS	MCY	UBUS	SBUS	MH	Diff to Allocate
New Fleet Allocation	**0.00000**	**0.00000**	**0.00042**	**0.00000**	0	**0.00000**	0	0	0	0.00042
Default Frac	0.017402	0.005339	0.017250	0.067711	0.001365	0.004629	0.001213	0.000959	0.004629	0.115868
Allocation Fraction	**0.017402**	**0.005339**	**0.016829**	**0.067711**	**0.001365**		**0.001213**	**0.000959**		**0.115447**

2020 CalEEMod Default Fleet Mix for Riverside County

	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Default Fleet Mix	FleetMix	0.538064	0.038449	0.18439	0.122109	0.017402	0.005339	0.01725	0.067711	0.001365	0.001213	0.004629	0.000959	0.00112	
Revised Fleet Mix		**0.608412**	**0.043476**	**0.208498**	**0.138074**	0	0	**0.000421**	**0.000000**	0	0	0	0	0.00112	1.000000

Truck Trip CalEEMod Input

	Trips/Day	Fleet Fraction
MHD Trucks Trips/Day	0.29	0.000421
Total Truck Trips/Day	0.29	
Trip Generation All Vehicle Types	**678.8068**	

Condominium Truck Trips 2022

Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Residential	Condo	14	Units
		7.33	Trips/Unit

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU Units	Trip Gen
Condo	Condo	7.33	7.33	7.33	7.33	14	102.62
Total Trips							102.62

Adjusted Fleet Mix for No HDT Trucks	**LDA**	**LDT1**	**LDT2**	**MDV**	**Total**		New Fleet Allocation	**LHD1 Frac**	**LHD2 Frac**	**MHD Frac**	**HHD Frac**	**Diff to Allocate**
Default Fleet Mix	0.545527	0.036856	0.186032	0.115338	0.883753		Default Frac	0.015222	0.004970	0.017525	0.069528	0.107245
Adjusted Fleet Mix	0.596746	0.040316	0.203498	0.126167	0.966728		Allocation Fraction	**-0.006648**	**0.004970**	**0.016916**	**0.067737**	**0.082975**
					0.082975							

2022 CalEEMod Default Fleet Mix for Riverside County	EmissionType	**LDA**	**LDT1**	**LDT2**	**MDV**	**LHD1**	**LHD2**	**MHD**	**HHD**	**OBUS**	**UBUS**	**MCY**	**SBUS**	**MH**	
Default Fleet Mix	FleetMix	0.545527	0.036856	0.186032	0.115338	0.015222	0.00497	0.017525	0.069528	0.001397	0.00116	0.004547	0.000932	0.000965	
Revised Fleet Mix		**0.596746**	**0.040316**	**0.203498**	**0.126167**	0.02187	**0.00000**	**0.000609**	**0.001791**	0.001397	0.00116	0.004547	0.000932	0.000965	0.999999

Truck Trip CalEEMod Input

Trip Generation All Vehicle Types **102.62**

Condominium Truck Trips 2022

Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Residential	Condo	66	Units
		7.33	Trips/Unit

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
QSR Restaurant	FF Rest no DT	7.33	7.33	7.33	7.33	66	483.78
Total Trips							483.78

Adjusted Fleet Mix for No HDT Trucks	**LDA**	**LDT1**	**LDT2**	**MDV**	**Total**		New Fleet Allocation	**LHD1 Frac**	**LHD2 Frac**	**MHD Frac**	**HHD Frac**	**Diff to Allocate**
Default Fleet Mix	0.5486	0.03625	0.186898	0.112544	0.884292		Default Frac	0.014284	0.004806	0.017604	0.070134	0.106828
Adjusted Fleet Mix	0.599817	0.039634	0.204347	0.123051	0.966850		Allocation Fraction	**-0.007586**	**0.004806**	**0.016995**	**0.068343**	**0.082558**
					0.082558							

2023 CalEEMod Default Fleet Mix for Riverside County	EmissionType	**LDA**	**LDT1**	**LDT2**	**MDV**	**LHD1**	**LHD2**	**MHD**	**HHD**	**OBUS**	**UBUS**	**MCY**	**SBUS**	**MH**	
Default Fleet Mix	FleetMix	0.5486	0.03625	0.186898	0.112544	0.014284	0.004806	0.017604	0.070134	0.001409	0.001147	0.004508	0.000918	0.000898	
Revised Fleet Mix		**0.599817**	**0.039634**	**0.204347**	**0.123051**	**0.02187**	0	**0.000609**	**0.001791**	0.001409	0.001147	0.004508	0.000918	0.000898	1.000000

Truck Trip CalEEMod Input

Trip Generation All Vehicle Types **483.78**

Trruck Trips by Trip Purpose

LHDT1	Deliveries/ Week	Deliveries/ Day	Trips/Day	Fleet Fraction
UPS/Fedex/Amazon, etc		5	10	
Small Moving Vans			0.009	
Utility Service Trucks	2	0.286	0.571	
Total			**10.580**	**0.02187**

MHD	Deliveries/ Week	Deliveries/ Day	Trips/Day	
Medium Moving Vans			0.009	
Large Delivery Trucks	1	0.143	0.286	
Total			**0.295**	**0.000609**

HHD	Deliveries/ Week	Deliveries/ Day	Trips/Day	
Refuse Trucks	3	0.429	0.857	
Large Moving Vans			0.009	
Total			**0.866**	**0.001791**

Moving Trip Vehicle Size	Trips/Year	Trips/Week	Trips/Day
66 Units Avg. Turnover/Year	13.2	0.254	0.036
Large Moving Vans 25%	3.3	0.063	0.009
Medium Sized Uhaul Trucks 25%	3.3	0.063	0.009
Small Uhaul Trucks 25%	3.3	0.063	0.009
Pickup Trucks/Trailers 25%	3.3	0.063	0.009

Residents assumed to move once every 5 years

General Retail
Land Use Assumptions

LandUseType	LandUseSubTy	LandUseUnitAn	LandUseSizeMetric
Retail	Stip Mall	19.537	KSF
		162.80	Trips/FP

Project Trip Generation

VehicleTripsLandUseSubType	VehicleTripsL	WD_TR	ST_TR	SU_TR	Daily Avg	LU SF	Trip Gen
Retal	Strip Mall	44.35	44.35	44.35	44.35	19.537	866.466
Total Trips							866.466

Adjusted Fleet Mix for No HDT Trucks	LDA	LDT1	LDT2	MDV	Total
Default Fleet Mix	0.545527	0.036856	0.186032	0.115338	0.883753
Adjusted Fleet Mix	0.606414	0.040970	0.206795	0.128211	0.982390
					0.098637

	LHD1 Frac	LHD2 Frac	MHD Frac	HHD Frac	OBUS	UBUS	SBUS	Diff to Allocate
New Fleet Allocation	**0.00151**	**0.00151**	**0.00662**	**0.00245**	0	0	0	0.01210
Default Frac	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.000932	0.110734
Allocation Fraction	**0.013708**	**0.003456**	**0.010907**	**0.067077**	**0.001397**	**0.001160**	**0.000932**	**0.098637**

2022 CalEEMod Default Fleet Mix for Riverside County

	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Default Fleet Mix	FleetMix	0.545527	0.036856	0.186032	0.115338	0.015222	0.00497	0.017525	0.069528	0.001397	0.00116	0.004547	0.000932	0.000965	
Revised Fleet Mix		**0.606414**	**0.040970**	**0.206795**	**0.128211**	**0.00151**	**0.00151**	**0.00662**	**0.00245**	0	0	0.004547	0	0.000965	0.999999

Trip Generation All Vehicle Types **866.46595**

Shopping Center Truck Trips

	Sq. Ft.	KSF
Retail First Floor	19,537	19.537

Riverpark Truck Trip Survey Results

	sq Ft	# of Deliveries per Week	LHD Van/Car (small)	MHD (Medium)	Semi (large)
Totals	468,460	386.50	97.00	212.00	78.50
Deliveries per day		55.21	13.86	30.29	11.21
RT Trips/Day		110.43	27.71	60.57	22.43
Trips/1,000 sf	468.46	**0.236**	**0.059**	**0.129**	**0.048**

	Week Day Trips/KSF	Saturday Trip/KSF	Sunday Trips/KSF	Daily Average
Strip Mall	44.35	44.35	44.35	44.35
Project Trips				866.466

	Trips per day	Fleet Fraction
LHD1 Truck Trips	1.31	0.001514
LHD2 Truck Trips	1.31	0.001514
MHD Truck Trips	5.73	0.006618
HHD Truck Trips	2.12	0.002451
	10.48	

Appendix A

Gasoline Station Risk Screening Analysis

Residential Cancer Risks for Gasoline Service Stations

Distance to Onsite Receptor	68	meters
Risk Estimate/Million Gallons	1.18	at 60 meters
Gasoline Throughput (M Gal/Yr)	1.8	
Cancer Risk at Closest Receptor	2.124	

SCAQMD Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations, Jan 2007

Measured distance from gas pumps to onsite residence using Google Earth measurement tool

Appendix A: Energy Analysis

Energy Analysis

Phase 1

	Natural Gas Usage (therms)	Electricity Usage kWh
Carwash	131,779	41,168
Conv Mkt Gas Station	7,228	41,123
QSR Restaurant	539,224	93,630
FF wDT	1,968,770	341,856
Parking Lot	0	82,633
Total	**2,647,001**	**600,411**

Phase 2

	Natural Gas Usage (therms)	Electricity Usage kWh
Condo	317,289	78,989
Parking Lot	0	24,165
Retail	38,184	217,236
Total	**355,473**	**320,390**

Phase 3

	Natural Gas Usage (therms)	Electricity Usage kWh
Condos	1,495,790	372,376
Total Project Energy Use	**4,498,264**	**1,293,176**

Source: CalEEMod 2016.3.2 Modeling Results

Offroad Construction Equipment

EPA Nonroad Brake Specific Fuel Consumption Factors

	lbs/hp-hr
Engine 50-100 HP	0.408
Engine >=100 HP	0.367

Source EPA 2010 Exhaust and Crankase Emission Factors for Nonroad Engine Modeling for Compression Engines

Diesel Fuel Conversion Lbs to Gallons	6.943

CalEEMod Construction Data

Site Prep and Grading

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Site Preparation	Site Preparation	2020/10/01	2020/10/14	5	10

PhaseName	OffRoadEquipmentType	OffRoadEquipmentU	UsageHours	Days Used	Hours/Phase	HorsePower	LoadFactor	BSFC (lbs	Fuel Use (lbs)	
Site Preparation	Rubber Tired Dozers	3	8	10	240	247	0.4	0.367	8,702	
Site Preparation	Tractors/Loaders/Backhoes	4	8	10	320	97	0.37	0.408	4,686	
					560				13,388	1,928

Phase 1

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Grading	Grading	2020/10/15	2020/11/11	5	20
2	Building Construction	Building Construction	2020/11/12	2021/09/29	5	230
3	Paving	Paving	2021/09/30	2021/10/27	5	20
4	Architectural Coating	Architectural Coating	2021/10/28	2021/11/24	5	20

PhaseName	OffRoadEquipmentType	OffRoadEquipmentU	UsageHours	Days Used	Hours/Phase	HorsePower	LoadFactor	BSFC (lbs	Fuel Use (lbs)	Gallons	
Grading	Excavators	1	8	20	160	158	0.38	0.367	3,526		
Grading	Graders	1	8	20	160	187	0.41	0.367	4,502		
Grading	Rubber Tired Dozers	1	8	20	160	247	0.4	0.367	5,802		
Grading	Tractors/Loaders/Backhoes	3	8	230	5520	97	0.37	0.408	80,830		
Building Construction	Cranes	1	7	230	1610	231	0.29	0.367	39,582		
Building Construction	Forklifts	3	8	230	5520	89	0.2	0.408	40,088		
Building Construction	Generator Sets	1	8	230	1840	84	0.74	0.408	46,665		
Building Construction	Tractors/Loaders/Backhoes	3	7	230	4830	97	0.37	0.408	70,726		
Building Construction	Welders	1	8	230	1840	46	0.45	0.408	15,540		
Paving	Pavers	2	8	20	320	130	0.42	0.367	6,412		
Paving	Paving Equipment	2	8	20	320	132	0.36	0.367	5,581		
Paving	Rollers	2	8	20	320	80	0.38	0.408	3,969		
Architectural Coating	Air Compressors	1	6	20	120	78	0.48	0.408	1,833		
					22720				325,056	46,818	

Phase 2

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Grading	Grading	2021/11/25	2021/11/30	5	4
2	Building Construction	Building Construction	2021/12/01	2022/09/06	5	200
3	Paving	Paving	2022/09/07	2022/09/20	5	10
4	Architectural Coating	Architectural Coating	2022/09/21	2022/10/04	5	10

PhaseName	OffRoadEquipmentType	OffRoadEquipmentU	UsageHours	Days Used	Hours/Phase	HorsePower	LoadFactor	BSFC (lbs	Fuel Use (lbs)	
Grading	Graders	1	6	4	24	187	0.41	0.367	675	
Grading	Rubber Tired Dozers	1	6	4	24	247	0.4	0.367	870	
Grading	Tractors/Loaders/Backhoes	1	7	4	28	97	0.37	0.408	410	
Building Construction	Cranes	1	6	4	24	231	0.29	0.367	590	
Building Construction	Forklifts	1	6	200	1200	89	0.2	0.408	8,715	
Building Construction	Generator Sets	1	8	200	1600	84	0.74	0.408	40,578	
Building Construction	Tractors/Loaders/Backhoes	1	6	200	1200	97	0.37	0.408	17,572	
Building Construction	Welders	3	8	200	4800	46	0.45	0.408	40,539	
Paving	Cement and Mortar Mixers	1	6	10	60	9	0.56	0.408	123	
Paving	Pavers	1	6	10	60	130	0.42	0.367	1,202	
Paving	Paving Equipment	1	8	10	80	132	0.36	0.367	1,395	
Paving	Rollers	1	7	10	70	80	0.38	0.408	868	
Paving	Tractors/Loaders/Backhoes	1	8	10	80	97	0.37	0.408	1,171	
Architectural Coating	Air Compressors	1	6	10	60	78	0.48	0.408	917	
					9310				115,626	16,654

PhaseNumber	PhaseName	PhaseType	PhaseStartDate	PhaseEndDate	NumDaysWeek	NumDays
1	Grading	Grading	2022/10/05	2022/10/14	5	8
2	Building Construction	Building Construction	2022/10/15	2023/09/01	5	230
3	Paving	Paving	2023/09/02	2023/09/27	5	18
4	Architectural Coating	Architectural Coating	2023/09/28	2023/10/23	5	18

PhaseName	OffRoadEquipmentType	OffRoadEquipmentU	UsageHours	Days Used	Hours/Phase	HorsePower	LoadFactor	BSFC (lbs	Fuel Use (lbs)	
Grading	Excavators	1	8	8	64	158	0.38	0.367	1,410	
Grading	Graders	1	8	8	64	187	0.41	0.367	1,801	
Grading	Rubber Tired Dozers	1	8	8	64	247	0.4	0.367	2,321	
Grading	Tractors/Loaders/Backhoes	3	8	8	192	97	0.37	0.408	2,811	
Building Construction	Cranes	1	7	230	1610	231	0.29	0.367	39,582	
Building Construction	Forklifts	3	8	230	5520	89	0.2	0.408	40,088	
Building Construction	Generator Sets	1	8	230	1840	84	0.74	0.408	46,665	
Building Construction	Tractors/Loaders/Backhoes	3	7	230	4830	97	0.37	0.408	70,726	
Building Construction	Welders	1	8	230	1840	46	0.45	0.408	15,540	
Paving	Cement and Mortar Mixers	2	6	18	216	9	0.56	0.408	444	
Paving	Pavers	1	8	18	144	130	0.42	0.367	2,886	
Paving	Paving Equipment	2	6	18	216	132	0.36	0.367	3,767	
Paving	Rollers	2	6	18	216	80	0.38	0.408	2,679	
Paving	Tractors/Loaders/Backhoes	1	8	18	144	97	0.37	0.408	2,109	
Architectural Coating	Air Compressors	1	6	18	108	78	0.48	0.408	1,650	
					17068				234,479	33,772

Fuel Used by Project Construction Equipment

Pounds of Fuel all Phases	688,549
Gallons of Fuel Used	99,172
Hours of Use all Phases	40,408
Average Gallons/Hour	2.45

Fuel Used by Onroad Mobile Sources

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: County
Region: RIVERSIDE
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2011 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	Fuel Consumption	Gallons/VMT/Day	Weighted Average Fuel Use
RIVERSIDE	2023	All Other Buses	Aggregated	Aggregated	DSL	294	18,089	2,473	1.61	0.089	0.000
RIVERSIDE	2023	LDA	Aggregated	Aggregated	GAS	794,639	30,779,832	3,761,834	939.68	0.031	0.016
RIVERSIDE	2023	LDA	Aggregated	Aggregated	DSL	7,816	317,502	37,384	5.94	0.019	0.000
RIVERSIDE	2023	LDA	Aggregated	Aggregated	ELEC	15,793	639,618	79,226	0.00	0.000	0.000
RIVERSIDE	2023	LDT1	Aggregated	Aggregated	GAS	84,985	3,138,139	388,775	113.05	0.036	0.002
RIVERSIDE	2023	LDT1	Aggregated	Aggregated	DSL	36	808	119	0.03	0.038	0.000
RIVERSIDE	2023	LDT1	Aggregated	Aggregated	ELEC	684	28,862	3,474	0.00	0.000	0.000
RIVERSIDE	2023	LDT2	Aggregated	Aggregated	GAS	259,439	9,916,617	1,215,740	376.54	0.038	0.006
RIVERSIDE	2023	LDT2	Aggregated	Aggregated	DSL	1,634	70,614	8,050	1.76	0.025	0.000
RIVERSIDE	2023	LDT2	Aggregated	Aggregated	ELEC	3,041	93,664	15,375	0.00	0.000	0.000
RIVERSIDE	2023	LHD1	Aggregated	Aggregated	GAS	20,379	669,595	303,623	61.48	0.092	0.001
RIVERSIDE	2023	LHD1	Aggregated	Aggregated	DSL	20,311	686,783	255,481	32.25	0.047	0.001
RIVERSIDE	2023	LHD2	Aggregated	Aggregated	GAS	3,277	106,176	48,823	11.19	0.105	0.000
RIVERSIDE	2023	LHD2	Aggregated	Aggregated	DSL	7,907	266,138	99,457	13.65	0.051	0.000
RIVERSIDE	2023	MCY	Aggregated	Aggregated	GAS	36,805	267,173	73,609	6.98	0.026	0.000
RIVERSIDE	2023	MDV	Aggregated	Aggregated	GAS	209,260	7,517,129	959,363	358.10	0.048	0.006
RIVERSIDE	2023	MDV	Aggregated	Aggregated	DSL	4,652	191,155	22,591	6.47	0.034	0.000
RIVERSIDE	2023	MDV	Aggregated	Aggregated	ELEC	1,810	57,060	9,221	0.00	0.000	0.000
RIVERSIDE	2023	MH	Aggregated	Aggregated	GAS	5,777	46,142	578	8.86	0.192	0.000
RIVERSIDE	2023	MH	Aggregated	Aggregated	DSL	2,588	20,397	259	1.86	0.091	0.000
RIVERSIDE	2023	Motor Coach	Aggregated	Aggregated	DSL	60	8,488	879	1.21	0.143	0.000
RIVERSIDE	2023	OBUS	Aggregated	Aggregated	GAS	588	26,195	11,769	5.02	0.192	0.000
RIVERSIDE	2023	PTO	Aggregated	Aggregated	DSL	0	46,453	0	8.73	0.188	0.000
RIVERSIDE	2023	SBUS	Aggregated	Aggregated	GAS	506	20,097	2,025	2.23	0.111	0.000
RIVERSIDE	2023	SBUS	Aggregated	Aggregated	DSL	1,176	37,239	13,570	4.85	0.130	0.000
RIVERSIDE	2023	T6 Ag	Aggregated	Aggregated	DSL	7	135	30	0.01	0.104	0.000
RIVERSIDE	2023	T6 CAIRP heavy	Aggregated	Aggregated	DSL	151	29,534	2,210	2.36	0.080	0.000
RIVERSIDE	2023	T6 CAIRP small	Aggregated	Aggregated	DSL	81	4,211	1,177	0.36	0.086	0.000
RIVERSIDE	2023	T6 instate constructio	Aggregated	Aggregated	DSL	1,086	71,479	4,908	6.34	0.089	0.000
RIVERSIDE	2023	T6 instate constructio	Aggregated	Aggregated	DSL	2,233	125,247	10,095	11.00	0.088	0.000
RIVERSIDE	2023	T6 instate heavy	Aggregated	Aggregated	DSL	2,230	296,680	25,732	24.41	0.082	0.000
RIVERSIDE	2023	T6 instate small	Aggregated	Aggregated	DSL	8,223	422,617	94,892	36.94	0.087	0.001
RIVERSIDE	2023	T6 OOS heavy	Aggregated	Aggregated	DSL	87	16,945	1,268	1.35	0.080	0.000
RIVERSIDE	2023	T6 OOS small	Aggregated	Aggregated	DSL	47	2,462	691	0.21	0.086	0.000
RIVERSIDE	2023	T6 Public	Aggregated	Aggregated	DSL	886	13,529	2,687	1.60	0.118	0.000
RIVERSIDE	2023	T6 utility	Aggregated	Aggregated	DSL	201	3,370	2,312	0.32	0.096	0.000

RIVERSIDE	2023	T6TS	Aggregated	Aggregated	GAS	2,097	111,901	41,963	21.16	0.189	0.000
RIVERSIDE	2023	T7 Ag	Aggregated	Aggregated	DSL	10	91	43	0.02	0.177	0.000
RIVERSIDE	2023	T7 CAIRP	Aggregated	Aggregated	DSL	5,082	924,790	74,197	125.51	0.136	0.002
RIVERSIDE	2023	T7 CAIRP constructio	Aggregated	Aggregated	DSL	282	51,344	1,273	6.52	0.127	0.000
RIVERSIDE	2023	T7 NNOOS	Aggregated	Aggregated	DSL	5,705	1,127,401	83,298	145.95	0.129	0.002
RIVERSIDE	2023	T7 NOOS	Aggregated	Aggregated	DSL	2,014	363,338	29,404	50.60	0.139	0.001
RIVERSIDE	2023	T7 POLA	Aggregated	Aggregated	DSL	2,845	380,200	21,619	52.09	0.137	0.001
RIVERSIDE	2023	T7 Public	Aggregated	Aggregated	DSL	1,017	20,605	3,085	3.36	0.163	0.000
RIVERSIDE	2023	T7 Single	Aggregated	Aggregated	DSL	3,249	233,945	37,499	31.16	0.133	0.001
RIVERSIDE	2023	T7 single constructior	Aggregated	Aggregated	DSL	1,836	127,375	8,298	17.23	0.135	0.000
RIVERSIDE	2023	T7 SWCV	Aggregated	Aggregated	DSL	82	3,353	320	1.65	0.493	0.000
RIVERSIDE	2023	T7 SWCV	Aggregated	Aggregated	NG	356	14,466	1,388	6.03	0.417	0.000
RIVERSIDE	2023	T7 tractor	Aggregated	Aggregated	DSL	4,440	597,118	56,393	75.38	0.126	0.001
RIVERSIDE	2023	T7 tractor constructior	Aggregated	Aggregated	DSL	1,542	105,073	6,973	14.27	0.136	0.000
RIVERSIDE	2023	T7 utility	Aggregated	Aggregated	DSL	130	2,643	1,497	0.40	0.151	0.000
RIVERSIDE	2023	T7IS	Aggregated	Aggregated	GAS	7	706	142	0.16	0.225	0.000
RIVERSIDE	2023	UBUS	Aggregated	Aggregated	GAS	165	23,291	662	3.74	0.161	0.000
RIVERSIDE	2023	UBUS	Aggregated	Aggregated	DSL	0	12	1	0.00	0.107	0.000
RIVERSIDE	2023	UBUS	Aggregated	Aggregated	ELEC	4	249	16	0.00	0.000	0.000
RIVERSIDE	2023	UBUS	Aggregated	Aggregated	NG	312	42,552	1,249	9.47	0.222	0.000
							60,086,627				**0.043**

	Gallons/VMT
Average Fuel Consumption per VMT in Riverside County	0.043

Project VMT

	VMT/Year	Fuel Used/Year (gallons)
Phase 1	7,090,376	308,115
Phase 2	1,678,360	72,934
Phase 3	1,538,151	66,841
Total for Project	10,306,887	447,890

Appendix A
Emissions Summary

Emission Summary

Construction Summary

Site Preparation Entire Site

Construction Daily Maximum Daily Emission Summer		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2020	**4.17**	**42.47**	**22.24**	**0.04**	**10.53**	**6.54**

Construction Daily Maximum Daily Emission Winter		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2020	**4.17**	**42.47**	**22.10**	**0.04**	**10.53**	**6.54**

Highest Emissions During 2020		**4.17**	**42.47**	**22.24**	**0.04**	**10.53**	**6.54**

Phase 1

Construction Daily Maximum Daily Emission Summer		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2020	2.77	**26.43**	**21.85**	**0.05**	**4.39**	**2.73**
	2021	**11.24**	21.51	21.13	0.05	2.41	1.30

Construction Daily Maximum Daily Emission Winter		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2020	2.86	**22.78**	17.32	0.03	4.13	2.53
	2021	11.35	19.42	16.76	0.03	1.58	1.09

Highest Emissions During 2020		**2.86**	**26.43**	**21.85**	**0.05**	**4.39**	**2.73**
Highest Emissions During 2021		**11.35**	**21.51**	**21.13**	**0.05**	**2.41**	**1.30**

Phase 2

Construction Daily Maximum Daily Emission Summer		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2021	2.06	**15.24**	**14.83**	**0.03**	**2.94**	**1.75**
	2022	**26.87**	14.01	14.51	0.03	1.20	0.74

Construction Daily Maximum Daily Emission Winter		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2021	2.06	**15.23**	14.55	0.03	2.94	1.75
	2022	26.87	14.00	14.25	0.03	1.20	0.74

Highest Emissions During 2021		**2.06**	**15.24**	**14.83**	**0.03**	**2.94**	**1.75**
Highest Emissions During 2022		**26.87**	**14.01**	**14.51**	**0.03**	**1.20**	**0.74**

Phase 3

Construction Daily Maximum Daily Emission Summer		ROG	NOX	CO	SO2	PM10	PM2.5
				Pounds/Day			
	2022	2.02	20.89	**18.11**	**0.03**	**4.06**	**2.43**
	2023	**23.18**	14.95	17.85	0.03	1.28	0.82

Construction Daily				Pounds/Day			
Maximum Daily Emission Winter		**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
	2022	2.01	**20.89**	17.81	0.03	4.06	2.43
	2023	23.18	14.95	17.57	0.02	1.28	0.82
Highest Emissions During 2022		**2.02**	**20.89**	**18.11**	**0.03**	**4.06**	**2.43**
Highest Emissions During 2023		**23.18**	**14.95**	**17.85**	**0.03**	**1.28**	**0.82**
Highest Emissions During Project Constr		**2.02**	**42.47**	**22.24**	**0.04**	**10.53**	**6.54**

Highest Construction Emissions Each Year

	Pounds/Day					
	ROG	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
2020	**2.86**	**26.43**	**21.85**	**0.05**	**4.39**	**2.73**
2021	**11.35**	**21.51**	**21.13**	**0.05**	**2.41**	**1.30**
2022	**26.87**	**20.89**	**18.11**	**0.03**	**4.06**	**2.43**
2023	**23.18**	**14.95**	**17.85**	**0.03**	**1.28**	**0.82**

Operations Summary

Phase 1 2020			Tons/Year			
Unmitigated Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.0443	0.0000	0.0004	0.0000	0.0000	0.0000
Energy	0.0036	0.0325	0.0325	0.0002	0.0025	0.0025
Mobile	1.0850	1.3225	9.8566	0.0249	2.4358	0.6601
Total	**1.1329**	**1.3550**	**9.8895**	**0.0251**	**2.4383**	**0.6626**

Phase 2 2021			Tons/Year			
Unmitigated Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.1839	0.0043	0.1462	0.0000	0.0010	0.0010
Energy	0.0126	0.1134	0.0892	0.0007	0.0087	0.0087
Mobile	1.0274	2.8222	9.7541	0.0295	2.7269	0.7409
Total	**1.2239**	**2.9399**	**9.9895**	**0.0302**	**2.7366**	**0.7506**

Phase 3 2022			Tons/Year			
Unmitigated Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.2812	0.0202	0.6866	0.0001	0.0048	0.0048
Energy	0.0081	0.0689	0.0293	0.0042	0.0056	0.0056
Mobile	0.1296	0.2914	1.7706	0.0058	0.6359	0.1696
Total	**0.4189**	**0.3805**	**2.4865**	**0.0101**	**0.6462**	**0.1799**

Project Operational Emissions at Buildout

	Tons/Year					
Unmitigated Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1	1.1329	1.3550	9.8895	0.0251	2.4383	0.6626
Phase 2	1.2239	2.9399	9.9895	0.0302	2.7366	0.7506
Phase 3	0.4189	0.3805	2.4865	0.0101	0.6462	0.1799
Total at Buildout	**2.7757**	**4.6754**	**22.3655**	**0.0654**	**5.8211**	**1.5931**

Operational Daily Emissions Summary

Phase 1 2021

Operations Unmitigated Summer			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.47	0.00	0.00	0.00	0.00	0.00
Energy	0.08	0.71	0.60	0.00	0.05	0.05
Mobile	16.41	9.09	93.84	0.17	16.09	4.36
	16.95	**9.80**	**94.44**	**0.18**	**16.14**	**4.42**

Operations Unmitigated Winter			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.47	0.00	0.00	0.00	0.00	0.00
Energy	0.08	0.71	0.60	0.00	0.05	0.05
Mobile	12.97	9.52	86.82	0.16	16.09	4.36
	13.52	**10.23**	**87.42**	**0.16**	**16.14**	**4.42**

Highest Emissions Phase 1	**16.95**	**10.23**	**94.44**	**0.18**	**16.14**	**4.42**

Phase 2 2022

Operations Unmitigated Summer			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	4.42	0.30	8.28	0.02	1.08	1.08
Energy	0.01	0.09	0.04	0.00	0.01	0.01
Mobile	1.33	1.56	12.89	0.04	3.80	1.03
	5.75	**1.95**	**21.22**	**0.06**	**4.88**	**2.11**

Operations Unmitigated Winter			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	4.42	0.30	8.28	0.02	1.08	1.08
Energy	0.01	0.09	0.04	0.00	0.01	0.01
Mobile	1.05	1.60	11.08	0.03	3.80	1.03
	5.48	**1.99**	**19.40**	**0.05**	**4.88**	**2.11**

Highest Emissions Phase 2	**5.75**	**1.99**	**21.22**	**0.06**	**4.88**	**2.11**

Phase 3 2023

Operations Unmitigated Summer			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	18.88	1.43	39.01	0.09	5.07	5.07
Energy	0.04	0.38	0.16	0.00	0.03	0.03
Mobile	0.80	1.34	10.25	0.03	3.49	0.94
	19.72	**3.15**	**49.42**	**0.12**	**8.60**	**6.05**

Operations Unmitigated Winter			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	18.88	1.43	39.01	0.09	5.07	5.07
Energy	0.04	0.38	0.16	0.00	0.03	0.03
Mobile	0.65	1.39	8.59	0.03	3.49	0.94
	19.58	**3.20**	**47.76**	**0.12**	**8.60**	**6.05**

Highest Emissions Phase 3	**19.72**	**3.20**	**49.42**	**0.12**	**8.60**	**6.05**

			Pounds/Day			
Project Daily Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
2021 Phase 1 Daily Emissions	16.95	10.23	94.44	0.18	16.14	4.42
2022 Phase 2 Daily Emisssion	5.75	1.99	21.22	0.06	4.88	2.11
2023 Phase 3 Daily Emissions	19.72	3.20	49.42	0.12	8.60	6.05
Cumulative Total	**42.43**	**15.43**	**165.08**	**0.36**	**29.62**	**12.57**

Concurrent Construction and Ops Maximum Daily

	Pounds/Day					
	ROG	NOX	CO	SO2	PM10	PM2.5
2020 Construction	**4.17**	**42.47**	**22.24**	**0.04**	**10.53**	**6.54**
2020 Operations (none)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Total	**4.17**	**42.47**	**22.24**	**0.04**	**10.53**	**6.54**
2021 Construction Ph 2	**2.06**	**15.24**	**14.83**	**0.03**	**2.94**	**1.75**
2021 Operations Ph 1	**16.95**	**10.23**	**94.44**	**0.18**	**16.14**	**4.42**
Total	**19.02**	**25.47**	**109.27**	**0.21**	**19.08**	**6.16**
2022 Construction Ph 3	**2.02**	**20.89**	**18.11**	**0.03**	**4.06**	**2.43**
2022 Cumulative Operations Ph 1 and 2	**22.71**	**12.23**	**115.66**	**0.24**	**21.02**	**6.52**
Total	**24.72**	**33.12**	**133.77**	**0.27**	**25.08**	**8.95**
2023 Construction Ph 3	**23.18**	**14.95**	**17.85**	**0.03**	**1.28**	**0.82**
2023 Cumulative Operation Ph 1 and 2	**22.71**	**15.43**	**165.08**	**0.36**	**29.62**	**12.57**
Total	**45.89**	**30.38**	**182.93**	**0.39**	**30.91**	**13.39**
2023 Construction (complete)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
2023 Cumulative Operations Ph 1, 2, and	**42.43**	**15.43**	**165.08**	**0.36**	**29.62**	**12.57**
Total	**42.43**	**15.43**	**165.08**	**0.36**	**29.62**	**12.57**
Highest for Each Pollutant in any Year	**45.89**	**42.47**	**182.93**	**0.39**	**30.91**	**13.39**
SCAQMD Daily Threshold	**55**	**55**	**550**	**150**	**150**	**55**

Greenhouse Gas Emissions

Construction Emissions

	CO2e
Site Prep/Mass Grading Entire Site	17.68
Phase 1 Construction 2020	105.17
Phase 1 Construction 2021	439.78
Phase 2 Construction 2021	32.71
Phase 2 Construction 2022	237.99
Phase 3 Construction 2022	91.10
Phase 3 Construction 2023	272.49
Total	**1,196.91**
Amortized 30 Years	**39.90**

Operational GHG Emissions	Phase 1	Phase 2	Phase 3	Total
Area	0.00	3.29	15.49	18.77
Energy	300.16	103.43	178.33	581.92
Mobile	2,489.91	543.19	473.83	3,506.93
Waste	45.69	9.24	11.45	66.38
Water	14.19	11.55	22.82	48.56
Total	**2,849.96**	**670.69**	**701.92**	**4,222.56**
				39.90
				4,262.46
Mobile emissions include 10% reduction from LCFS				
Service Population	384.00			11.10
SCAQMD Tier 3 Threshold (MTCO2e/yr)	3,000			

LST Analysis

	Construction	Operations
Distance to Nearest Receptor (meters)	14	14
Nox		
Nox Threshold (Lbs/day)	371	371
Project NOx Emisions (lbs/day)	26.43	2.99
Significant?	**No**	**No**
CO		
CO Threshold (lbs/day)	750	750
Project CO Emissions (lbs/day)	21.85	12.80
Significant?	**No**	**No**
PM10		
PM10 Threshold (lbs/day)	13	4
Project PM10 Emissions (lbs/day)	4.39	0.90
Significant?	**No**	**No**
PM2.5		
PM2.5 Threshold (lbs/day)	8	2
Project PM2.5 Emissions (lbs/day)	2.73	0.41
Significant?	**No**	**No**

Source Receptor Area
Receptor Location: Residences adjacent to the southwest of the project
Site Size 5 25 M threshold

Onsite Mobile Source Adjustment Factor	Miles	Miles Onsite	djustment Factor
Customer Trip Length	8.4	0.25	0.030

Operational LST Analysis With Onsite Emissions Only

Operations Unmitigated Summer			Pounds/Day			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.2427	0.0003	0.0029	0.0000	0.0000	0.0000
Energy	0.0196	0.1781	0.1496	0.0011	0.0135	0.0135
Mobile	0.4883	0.2834	2.7929	0.0052	0.4788	0.1298
	0.7506	**0.4618**	**2.9454**	**0.0063**	**0.4923**	**0.1433**

Operations Unmitigated Winter			Pounds/Day			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	0.2427	0.0000	0.0029	0.0000	0.0000	0.0000
Energy	0.0196	0.1781	0.1496	0.0011	0.0135	0.0135
Mobile	0.0314	0.0476	0.3298	0.0010	0.1131	0.0305
	0.2937	**0.2258**	**0.4823**	**0.0021**	**0.1266**	**0.0440**
Highest Emissions Phase 1	**0.75**	**0.23**	**2.9454**	**0.0063**	**0.1266**	**0.0440**

Operations Unmitigated Summer			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	1.0417	0.2224	1.2497	0.0014	0.0233	0.0233
Energy	0.0689	0.6213	0.4887	0.0038	0.0476	0.0476
Mobile	0.2084	0.4497	1.7527	0.0052	0.4534	0.1230
	1.3190	**1.2934**	**3.4911**	**0.0103**	**0.5243**	**0.1939**

Operations Unmitigated Winter			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	1.0417	0.2224	1.2497	0.0014	0.0233	0.0233
Energy	0.0689	0.6213	0.4887	0.0038	0.0476	0.0476
Mobile	0.1672	0.4528	1.5483	0.0047	0.4534	0.1230
	1.2778	**1.2965**	**3.2867**	**0.0099**	**0.5243**	**0.1939**

Highest Emissions Phase 2	**1.3190**	**1.2965**	**3.4911**	**0.0103**	**0.5243**	**0.1939**

Operations Unmitigated Summer			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	1.6999	1.0482	5.8702	0.0066	0.1098	0.1098
Energy	0.0442	0.3777	0.1607	0.0024	0.0305	0.0305
Mobile	0.0258	0.0450	0.3308	0.0010	0.1041	0.0281
	1.7699	**1.4709**	**6.3617**	**0.0100**	**0.2444**	**0.1684**

Operations Unmitigated Winter			**Pounds/Day**			
Maximum Daily Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Area	1.6999	1.0482	5.8702	0.0066	0.1098	0.1098
Energy	0.0442	0.3777	0.1607	0.0024	0.0305	0.0305
Mobile	0.0210	0.0467	0.2773	0.0009	0.1040	0.0281
	1.7651	**1.4726**	**6.3082**	**0.0099**	**0.2443**	**0.1684**

Highest Emissions Phase 3	**1.7699**	**1.4726**	**6.3617**	**0.0100**	**0.2444**	**0.1684**

			Pounds/Day			
Project Daily Operational Emissions	**ROG**	**NOX**	**CO**	**SO2**	**PM10**	**PM2.5**
Phase 1 Daily Emissions	0.7506	0.2258	2.9454	0.0063	0.1266	0.0440
Phase 2 Daily Emisssion	1.3190	1.2965	3.4911	0.0103	0.5243	0.1939
Phase 3 Daily Emissions	1.7699	1.4726	6.3617	0.0100	0.2444	0.1684
Total	**3.8395**	**2.9949**	**12.7982**	**0.0266**	**0.8952**	**0.4064**

Appendix A: CalEEMod Output

CalEEMod Output

Site Preparation and Grading (Annual)

Bamiyan Marketplace Mass Grading

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	1.00	1000sqft	11.85	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site prep for entire site

Construction Phase -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.02	11.85

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0208	0.2124	0.1107	2.0000e-004	0.0913	0.0110	0.1023	0.0499	0.0101	0.0600	0.0000	17.5430	17.5430	5.4300e-003	0.0000	17.6786
Maximum	**0.0208**	**0.2124**	**0.1107**	**2.0000e-004**	**0.0913**	**0.0110**	**0.1023**	**0.0499**	**0.0101**	**0.0600**	**0.0000**	**17.5430**	**17.5430**	**5.4300e-003**	**0.0000**	**17.6786**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0208	0.2124	0.1107	2.0000e-004	0.0416	0.0110	0.0526	0.0226	0.0101	0.0327	0.0000	17.5430	17.5430	5.4300e-003	0.0000	17.6786
Maximum	**0.0208**	**0.2124**	**0.1107**	**2.0000e-004**	**0.0416**	**0.0110**	**0.0526**	**0.0226**	**0.0101**	**0.0327**	**0.0000**	**17.5430**	**17.5430**	**5.4300e-003**	**0.0000**	**17.6786**

	ROG	NOx	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**	**54.40**	**0.00**	**48.56**	**54.71**	**0.00**	**45.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Bamiyan Marketplace Mass Grading - Riverside-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.0800e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1427	4.1427	1.7000e-004	4.0000e-005	4.1578
Mobile	0.0106	0.0867	0.1033	4.2000e-004	0.0295	3.1000e-004	0.0298	7.9000e-003	2.9000e-004	8.1900e-003	0.0000	39.4267	39.4267	2.5900e-003	0.0000	39.4915
Waste						0.0000	0.0000		0.0000	0.0000	0.2131	0.0000	0.2131	0.0126	0.0000	0.5281
Water						0.0000	0.0000		0.0000	0.0000	0.0235	0.4680	0.4915	2.4300e-003	6.0000e-005	0.5705
Total	**0.0147**	**0.0868**	**0.1034**	**4.2000e-004**	**0.0295**	**3.2000e-004**	**0.0298**	**7.9000e-003**	**3.0000e-004**	**8.2000e-003**	**0.2366**	**44.0374**	**44.2741**	**0.0178**	**1.0000e-004**	**44.7478**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.0800e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Energy	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	4.1427	4.1427	1.7000e-004	4.0000e-005	4.1578
Mobile	0.0106	0.0867	0.1033	4.2000e-004	0.0295	3.1000e-004	0.0298	7.9000e-003	2.9000e-004	8.1900e-003	0.0000	39.4267	39.4267	2.5900e-003	0.0000	39.4915
Waste						0.0000	0.0000		0.0000	0.0000	0.2131	0.0000	0.2131	0.0126	0.0000	0.5281
Water						0.0000	0.0000		0.0000	0.0000	0.0235	0.4680	0.4915	2.4300e-003	6.0000e-005	0.5705
Total	**0.0147**	**0.0868**	**0.1034**	**4.2000e-004**	**0.0295**	**3.2000e-004**	**0.0298**	**7.9000e-003**	**3.0000e-004**	**8.2000e-003**	**0.2366**	**44.0374**	**44.2741**	**0.0178**	**1.0000e-004**	**44.7478**

	ROG	NOx	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**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2020	10/14/2020	5	10	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0903**	**0.0110**	**0.1013**	**0.0497**	**0.0101**	**0.0598**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.9000e-004	3.0900e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8276	0.8276	2.0000e-005	0.0000	0.8282
Total	**4.1000e-004**	**2.9000e-004**	**3.0900e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8276**	**0.8276**	**2.0000e-005**	**0.0000**	**0.8282**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0204	0.2121	0.1076	1.9000e-004		0.0110	0.0110		0.0101	0.0101	0.0000	16.7153	16.7153	5.4100e-003	0.0000	16.8505
Total	**0.0204**	**0.2121**	**0.1076**	**1.9000e-004**	**0.0407**	**0.0110**	**0.0516**	**0.0223**	**0.0101**	**0.0325**	**0.0000**	**16.7153**	**16.7153**	**5.4100e-003**	**0.0000**	**16.8505**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.1000e-004	2.9000e-004	3.0900e-003	1.0000e-005	9.9000e-004	1.0000e-005	1.0000e-003	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8276	0.8276	2.0000e-005	0.0000	0.8282
Total	**4.1000e-004**	**2.9000e-004**	**3.0900e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**1.0000e-003**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.8276**	**0.8276**	**2.0000e-005**	**0.0000**	**0.8282**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0106	0.0867	0.1033	4.2000e-004	0.0295	3.1000e-004	0.0298	7.9000e-003	2.9000e-004	8.1900e-003	0.0000	39.4267	39.4267	2.5900e-003	0.0000	39.4915
Unmitigated	0.0106	0.0867	0.1033	4.2000e-004	0.0295	3.1000e-004	0.0298	7.9000e-003	2.9000e-004	8.1900e-003	0.0000	39.4267	39.4267	2.5900e-003	0.0000	39.4915

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	44.32	42.04	20.43	77,210	77,210
Total	44.32	42.04	20.43	77,210	77,210

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
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.0242	4.0242	1.7000e-004	3.0000e-005	4.0386
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.0242	4.0242	1.7000e-004	3.0000e-005	4.0386
NaturalGas Mitigated	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1192
NaturalGas Unmitigated	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1192

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Strip Mall	2220	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1192
Total		**1.0000e-005**	**1.1000e-004**	**9.0000e-005**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1192**

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	tons/yr										MT/yr					
Strip Mall	2220	1.0000e-005	1.1000e-004	9.0000e-005	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.1185	0.1185	0.0000	0.0000	0.1192
Total		**1.0000e-005**	**1.1000e-004**	**9.0000e-005**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.1185**	**0.1185**	**0.0000**	**0.0000**	**0.1192**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	12630	4.0242	1.7000e-004	3.0000e-005	4.0386
Total		**4.0242**	**1.7000e-004**	**3.0000e-005**	**4.0386**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Strip Mall	12630	4.0242	1.7000e-004	3.0000e-005	4.0386
Total		**4.0242**	**1.7000e-004**	**3.0000e-005**	**4.0386**

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	tons/yr										MT/yr					
Mitigated	4.0800e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Unmitigated	4.0800e-003	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**4.0700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	1.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	2.0000e-005	2.0000e-005	0.0000	0.0000	3.0000e-005
Total	**4.0700e-003**	**0.0000**	**1.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**2.0000e-005**	**2.0000e-005**	**0.0000**	**0.0000**	**3.0000e-005**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.4915	2.4300e-003	6.0000e-005	0.5705
Unmitigated	0.4915	2.4300e-003	6.0000e-005	0.5705

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	0.0740725 / 0.0453993	0.4915	2.4300e-003	6.0000e-005	0.5705
Total		**0.4915**	**2.4300e-003**	**6.0000e-005**	**0.5705**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Strip Mall	0.0740725 / 0.0453993	0.4915	2.4300e-003	6.0000e-005	0.5705
Total		**0.4915**	**2.4300e-003**	**6.0000e-005**	**0.5705**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2131	0.0126	0.0000	0.5281
Unmitigated	0.2131	0.0126	0.0000	0.5281

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	1.05	0.2131	0.0126	0.0000	0.5281
Total		**0.2131**	**0.0126**	**0.0000**	**0.5281**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Strip Mall	1.05	0.2131	0.0126	0.0000	0.5281
Total		**0.2131**	**0.0126**	**0.0000**	**0.5281**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 1 Construction and Operations (Annual)

Bamiyan Marketplace Phase 1

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.42	Acre	5.42	236,095.20	0
Fast Food Restaurant w/o Drive Thru	1.97	1000sqft	0.05	1,972.00	0
Fast Food Restaurant with Drive Thru	7.20	1000sqft	0.17	7,200.00	0
Automobile Care Center	4.06	1000sqft	0.09	4,056.00	0
Convenience Market With Gas Pumps	20.00	Pump	0.06	3,256.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Annual

Project Characteristics - SCE Intensity Factors with Compliance for RPS in 2020

Land Use - Site plan building sizes. Auto care center used for automated carwash.

Construction Phase -

Vehicle Trips - Trip Generation Rates and passby from project Traffic Impact Study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Mixed use project provides diversity.

Area Mitigation -

Water Mitigation -

Waste Mitigation - Achieve 75 percent diversion mandate

Fleet Mix - Project specific fleet mix based on expected truck deliveries. Auto Care Center used for Carwash

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	0.00
tblFleetMix	HHD	0.07	6.5000e-004
tblFleetMix	HHD	0.07	4.2100e-004
tblFleetMix	HHD	0.07	2.0000e-006
tblFleetMix	HHD	0.07	0.07
tblFleetMix	LDA	0.54	0.61
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.60
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04

tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.18
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1410e-003	0.00
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	MCY	4.5820e-003	0.00
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	0.05
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003

tblFleetMix	MHD	0.02	4.2100e-004
tblFleetMix	MHD	0.02	1.3200e-003
tblFleetMix	MHD	0.02	1.2630e-003
tblFleetMix	MHD	0.02	3.0000e-006
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	1.3650e-003
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	9.5900e-004
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	1.2130e-003
tblLandUse	LandUseSquareFeet	1,970.00	1,972.00
tblLandUse	LandUseSquareFeet	4,060.00	4,056.00
tblLandUse	LandUseSquareFeet	2,823.50	3,256.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	DV_TP	51.00	21.00

tblVehicleTrips	PB_TP	28.00	56.00
tblVehicleTrips	PB_TP	65.00	56.00
tblVehicleTrips	PB_TP	12.00	50.00
tblVehicleTrips	PR_TP	21.00	23.00
tblVehicleTrips	PR_TP	14.00	23.00
tblVehicleTrips	PR_TP	51.00	13.00
tblVehicleTrips	ST_TR	23.72	168.29
tblVehicleTrips	ST_TR	204.47	162.80
tblVehicleTrips	ST_TR	696.00	346.43
tblVehicleTrips	ST_TR	722.03	470.96
tblVehicleTrips	SU_TR	11.88	168.29
tblVehicleTrips	SU_TR	166.88	162.80
tblVehicleTrips	SU_TR	500.00	346.43
tblVehicleTrips	SU_TR	542.72	470.96
tblVehicleTrips	WD_TR	23.72	168.29
tblVehicleTrips	WD_TR	542.60	162.80
tblVehicleTrips	WD_TR	716.00	346.43
tblVehicleTrips	WD_TR	496.12	470.96

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0739	0.6925	0.5490	1.1800e-003	0.0926	0.0334	0.1260	0.0410	0.0312	0.0721	0.0000	104.6547	104.6547	0.0205	0.0000	105.1677
2021	0.3702	2.2367	2.1758	4.9200e-003	0.1410	0.1021	0.2431	0.0380	0.0959	0.1339	0.0000	438.0219	438.0219	0.0704	0.0000	439.7830
Maximum	**0.3702**	**2.2367**	**2.1758**	**4.9200e-003**	**0.1410**	**0.1021**	**0.2431**	**0.0410**	**0.0959**	**0.1339**	**0.0000**	**438.0219**	**438.0219**	**0.0704**	**0.0000**	**439.7830**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0739	0.6925	0.5490	1.1800e-003	0.0566	0.0334	0.0900	0.0225	0.0312	0.0536	0.0000	104.6547	104.6547	0.0205	0.0000	105.1676
2021	0.3702	2.2367	2.1758	4.9200e-003	0.1410	0.1021	0.2431	0.0380	0.0959	0.1339	0.0000	438.0216	438.0216	0.0704	0.0000	439.7827
Maximum	**0.3702**	**2.2367**	**2.1758**	**4.9200e-003**	**0.1410**	**0.1021**	**0.2431**	**0.0380**	**0.0959**	**0.1339**	**0.0000**	**438.0216**	**438.0216**	**0.0704**	**0.0000**	**439.7827**

	ROG	NOx	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**	**15.43**	**0.00**	**9.76**	**23.45**	**0.00**	**8.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-15-2020	1-14-2021	0.8820	0.8820
2	1-15-2021	4-14-2021	0.7709	0.7709
3	4-15-2021	7-14-2021	0.7801	0.7801
4	7-15-2021	9-30-2021	0.6655	0.6655
		Highest	0.8820	0.8820

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0858	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003
Energy	0.0143	0.1298	0.1090	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	298.7303	298.7303	0.0101	3.9500e-003	300.1594
Mobile	2.3700	1.7604	16.1725	0.0295	2.8552	0.0245	2.8797	0.7594	0.0227	0.7821	0.0000	2,654.7133	2,654.7133	0.1550	0.0000	2,658.5878
Waste						0.0000	0.0000		0.0000	0.0000	24.5903	0.0000	24.5903	1.4533	0.0000	60.9215
Water						0.0000	0.0000		0.0000	0.0000	1.0706	13.0979	14.1685	0.1106	2.7100e-003	17.7402
Total	**2.4701**	**1.8901**	**16.2820**	**0.0302**	**2.8552**	**0.0344**	**2.8896**	**0.7594**	**0.0325**	**0.7919**	**25.6609**	**2,966.5425**	**2,992.2034**	**1.7289**	**6.6600e-003**	**3,037.4099**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0858	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003
Energy	0.0143	0.1298	0.1090	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	298.7303	298.7303	0.0101	3.9500e-003	300.1594
Mobile	2.3314	1.6766	15.4633	0.0276	2.6582	0.0234	2.6816	0.7070	0.0216	0.7286	0.0000	2,486.2431	2,486.2431	0.1467	0.0000	2,489.9115
Waste						0.0000	0.0000		0.0000	0.0000	18.4427	0.0000	18.4427	1.0899	0.0000	45.6911
Water						0.0000	0.0000		0.0000	0.0000	0.8565	10.4783	11.3348	0.0885	2.1700e-003	14.1922
Total	**2.4314**	**1.8063**	**15.5728**	**0.0284**	**2.6582**	**0.0332**	**2.6914**	**0.7070**	**0.0315**	**0.7385**	**19.2992**	**2,795.4527**	**2,814.7519**	**1.3352**	**6.1200e-003**	**2,849.9552**

	ROG	NOx	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	**1.56**	**4.43**	**4.36**	**6.15**	**6.90**	**3.35**	**6.86**	**6.90**	**3.29**	**6.75**	**24.79**	**5.77**	**5.93**	**22.77**	**8.11**	**6.17**

3.0 Construction Detail

Construction Phase

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/15/2020	11/11/2020	5	20	
2	Building Construction	Building Construction	11/12/2020	9/29/2021	5	230	
3	Paving	Paving	9/30/2021	10/27/2021	5	20	
4	Architectural Coating	Architectural Coating	10/28/2021	11/24/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 5.42

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,726; Non-Residential Outdoor: 8,242; Striped Parking Area: 14,166 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	105.00	41.00	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
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0588	26.0588	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0655**	**0.0127**	**0.0783**	**0.0337**	**0.0117**	**0.0454**	**0.0000**	**26.0588**	**26.0588**	**8.4300e-003**	**0.0000**	**26.2694**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.1600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3794	1.3794	3.0000e-005	0.0000	1.3803
Total	**6.9000e-004**	**4.8000e-004**	**5.1600e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3794**	**1.3794**	**3.0000e-005**	**0.0000**	**1.3803**

3.2 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0243	0.2639	0.1605	3.0000e-004		0.0127	0.0127		0.0117	0.0117	0.0000	26.0587	26.0587	8.4300e-003	0.0000	26.2694
Total	**0.0243**	**0.2639**	**0.1605**	**3.0000e-004**	**0.0295**	**0.0127**	**0.0422**	**0.0152**	**0.0117**	**0.0269**	**0.0000**	**26.0587**	**26.0587**	**8.4300e-003**	**0.0000**	**26.2694**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.9000e-004	4.8000e-004	5.1600e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3794	1.3794	3.0000e-005	0.0000	1.3803
Total	**6.9000e-004**	**4.8000e-004**	**5.1600e-003**	**2.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3794**	**1.3794**	**3.0000e-005**	**0.0000**	**1.3803**

3.3 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0382	0.3454	0.3033	4.8000e-004		0.0201	0.0201		0.0189	0.0189	0.0000	41.6898	41.6898	0.0102	0.0000	41.9441
Total	**0.0382**	**0.3454**	**0.3033**	**4.8000e-004**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**41.6898**	**41.6898**	**0.0102**	**0.0000**	**41.9441**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-003	0.0768	0.0150	1.9000e-004	4.6600e-003	4.3000e-004	5.1000e-003	1.3400e-003	4.2000e-004	1.7600e-003	0.0000	18.1465	18.1465	1.4500e-003	0.0000	18.1828
Worker	8.6900e-003	6.0900e-003	0.0650	1.9000e-004	0.0208	1.3000e-004	0.0209	5.5200e-003	1.2000e-004	5.6300e-003	0.0000	17.3803	17.3803	4.4000e-004	0.0000	17.3912
Total	**0.0108**	**0.0829**	**0.0800**	**3.8000e-004**	**0.0254**	**5.6000e-004**	**0.0260**	**6.8600e-003**	**5.4000e-004**	**7.3900e-003**	**0.0000**	**35.5268**	**35.5268**	**1.8900e-003**	**0.0000**	**35.5740**

3.3 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0382	0.3454	0.3033	4.8000e-004		0.0201	0.0201		0.0189	0.0189	0.0000	41.6898	41.6898	0.0102	0.0000	41.9440
Total	**0.0382**	**0.3454**	**0.3033**	**4.8000e-004**		**0.0201**	**0.0201**		**0.0189**	**0.0189**	**0.0000**	**41.6898**	**41.6898**	**0.0102**	**0.0000**	**41.9440**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1000e-003	0.0768	0.0150	1.9000e-004	4.6600e-003	4.3000e-004	5.1000e-003	1.3400e-003	4.2000e-004	1.7600e-003	0.0000	18.1465	18.1465	1.4500e-003	0.0000	18.1828
Worker	8.6900e-003	6.0900e-003	0.0650	1.9000e-004	0.0208	1.3000e-004	0.0209	5.5200e-003	1.2000e-004	5.6300e-003	0.0000	17.3803	17.3803	4.4000e-004	0.0000	17.3912
Total	**0.0108**	**0.0829**	**0.0800**	**3.8000e-004**	**0.0254**	**5.6000e-004**	**0.0260**	**6.8600e-003**	**5.4000e-004**	**7.3900e-003**	**0.0000**	**35.5268**	**35.5268**	**1.8900e-003**	**0.0000**	**35.5740**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1844	1.6909	1.6078	2.6100e-003		0.0930	0.0930		0.0874	0.0874	0.0000	224.6882	224.6882	0.0542	0.0000	226.0433
Total	**0.1844**	**1.6909**	**1.6078**	**2.6100e-003**		**0.0930**	**0.0930**		**0.0874**	**0.0874**	**0.0000**	**224.6882**	**224.6882**	**0.0542**	**0.0000**	**226.0433**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4900e-003	0.3708	0.0714	1.0100e-003	0.0251	7.1000e-004	0.0258	7.2500e-003	6.8000e-004	7.9200e-003	0.0000	97.0281	97.0281	7.4000e-003	0.0000	97.2132
Worker	0.0437	0.0294	0.3206	1.0000e-003	0.1120	6.7000e-004	0.1126	0.0297	6.2000e-004	0.0303	0.0000	90.5290	90.5290	2.1100e-003	0.0000	90.5817
Total	**0.0532**	**0.4003**	**0.3920**	**2.0100e-003**	**0.1371**	**1.3800e-003**	**0.1385**	**0.0370**	**1.3000e-003**	**0.0383**	**0.0000**	**187.5571**	**187.5571**	**9.5100e-003**	**0.0000**	**187.7949**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1844	1.6909	1.6078	2.6100e-003		0.0930	0.0930		0.0874	0.0874	0.0000	224.6879	224.6879	0.0542	0.0000	226.0431
Total	**0.1844**	**1.6909**	**1.6078**	**2.6100e-003**		**0.0930**	**0.0930**		**0.0874**	**0.0874**	**0.0000**	**224.6879**	**224.6879**	**0.0542**	**0.0000**	**226.0431**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	9.4900e-003	0.3708	0.0714	1.0100e-003	0.0251	7.1000e-004	0.0258	7.2500e-003	6.8000e-004	7.9200e-003	0.0000	97.0281	97.0281	7.4000e-003	0.0000	97.2132
Worker	0.0437	0.0294	0.3206	1.0000e-003	0.1120	6.7000e-004	0.1126	0.0297	6.2000e-004	0.0303	0.0000	90.5290	90.5290	2.1100e-003	0.0000	90.5817
Total	**0.0532**	**0.4003**	**0.3920**	**2.0100e-003**	**0.1371**	**1.3800e-003**	**0.1385**	**0.0370**	**1.3000e-003**	**0.0383**	**0.0000**	**187.5571**	**187.5571**	**9.5100e-003**	**0.0000**	**187.7949**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0197**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.1000e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0197**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.4000e-004	4.3000e-004	4.7200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3333	1.3333	3.0000e-005	0.0000	1.3341
Total	**6.4000e-004**	**4.3000e-004**	**4.7200e-003**	**1.0000e-005**	**1.6500e-003**	**1.0000e-005**	**1.6600e-003**	**4.4000e-004**	**1.0000e-005**	**4.5000e-004**	**0.0000**	**1.3333**	**1.3333**	**3.0000e-005**	**0.0000**	**1.3341**

3.5 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1092					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.1114**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	6.1000e-004	6.6100e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8666	1.8666	4.0000e-005	0.0000	1.8677
Total	**9.0000e-004**	**6.1000e-004**	**6.6100e-003**	**2.0000e-005**	**2.3100e-003**	**1.0000e-005**	**2.3200e-003**	**6.1000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.8666**	**1.8666**	**4.0000e-005**	**0.0000**	**1.8677**

3.5 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1092					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**0.1114**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.0000e-004	6.1000e-004	6.6100e-003	2.0000e-005	2.3100e-003	1.0000e-005	2.3200e-003	6.1000e-004	1.0000e-005	6.3000e-004	0.0000	1.8666	1.8666	4.0000e-005	0.0000	1.8677
Total	**9.0000e-004**	**6.1000e-004**	**6.6100e-003**	**2.0000e-005**	**2.3100e-003**	**1.0000e-005**	**2.3200e-003**	**6.1000e-004**	**1.0000e-005**	**6.3000e-004**	**0.0000**	**1.8666**	**1.8666**	**4.0000e-005**	**0.0000**	**1.8677**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.3314	1.6766	15.4633	0.0276	2.6582	0.0234	2.6816	0.7070	0.0216	0.7286	0.0000	2,486.2431	2,486.2431	0.1467	0.0000	2,489.9115
Unmitigated	2.3700	1.7604	16.1725	0.0295	2.8552	0.0245	2.8797	0.7594	0.0227	0.7821	0.0000	2,654.7133	2,654.7133	0.1550	0.0000	2,658.5878

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	683.26	683.26	683.26	774,204	720,784
Convenience Market With Gas Pumps	3,256.00	3,256.00	3256.00	2,805,354	2,611,784
Fast Food Restaurant w/o Drive Thru	682.47	682.47	682.47	467,760	435,485
Fast Food Restaurant with Drive Thru	3,390.91	3,390.91	3390.91	3,568,553	3,322,323
Parking Lot	0.00	0.00	0.00		
Total	8,012.64	8,012.64	8,012.64	7,615,871	7,090,376

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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	23	21	56
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	23	21	56
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	13	37	50
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.608412	0.043476	0.208498	0.138074	0.000000	0.000000	0.000421	0.000000	0.000000	0.000000	0.000000	0.000000	0.001120
Convenience Market With Gas Pumps	0.590794	0.042217	0.202460	0.134076	0.017402	0.005339	0.001320	0.000650	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant w/o Drive Thru	0.590964	0.042229	0.202519	0.134114	0.017402	0.005339	0.001263	0.000421	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant with Drive Thru	0.597096	0.041389	0.203986	0.130521	0.016241	0.005141	0.000003	0.000002	0.000000	0.000000	0.045820	0.000000	0.001038
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	157.4764	157.4764	7.3500e-003	1.3600e-003	158.0660
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	157.4764	157.4764	7.3500e-003	1.3600e-003	158.0660
NaturalGas Mitigated	0.0143	0.1298	0.1090	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	141.2540	141.2540	2.7100e-003	2.5900e-003	142.0934
NaturalGas Unmitigated	0.0143	0.1298	0.1090	7.8000e-004		9.8600e-003	9.8600e-003		9.8600e-003	9.8600e-003	0.0000	141.2540	141.2540	2.7100e-003	2.5900e-003	142.0934

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	131779	7.1000e-004	6.4600e-003	5.4300e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0323	7.0323	1.3000e-004	1.3000e-004	7.0740
Convenience Market With Gas Pumps	7228.32	4.0000e-005	3.5000e-004	3.0000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.3857	0.3857	1.0000e-005	1.0000e-005	0.3880
Fast Food Restaurant w/o Drive Thru	539224	2.9100e-003	0.0264	0.0222	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.7750	28.7750	5.5000e-004	5.3000e-004	28.9460
Fast Food Restaurant with Drive Thru	1.96877e+006	0.0106	0.0965	0.0811	5.8000e-004		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	105.0610	105.0610	2.0100e-003	1.9300e-003	105.6853
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0143**	**0.1298**	**0.1090**	**7.8000e-004**		**9.8600e-003**	**9.8600e-003**		**9.8600e-003**	**9.8600e-003**	**0.0000**	**141.2540**	**141.2540**	**2.7000e-003**	**2.6000e-003**	**142.0934**

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	tons/yr										MT/yr					
Automobile Care Center	131779	7.1000e-004	6.4600e-003	5.4300e-003	4.0000e-005		4.9000e-004	4.9000e-004		4.9000e-004	4.9000e-004	0.0000	7.0323	7.0323	1.3000e-004	1.3000e-004	7.0740
Convenience Market With Gas Pumps	7228.32	4.0000e-005	3.5000e-004	3.0000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.3857	0.3857	1.0000e-005	1.0000e-005	0.3880
Fast Food Restaurant w/o Drive Thru	539224	2.9100e-003	0.0264	0.0222	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.7750	28.7750	5.5000e-004	5.3000e-004	28.9460
Fast Food Restaurant with Drive Thru	1.96877e+006	0.0106	0.0965	0.0811	5.8000e-004		7.3300e-003	7.3300e-003		7.3300e-003	7.3300e-003	0.0000	105.0610	105.0610	2.0100e-003	1.9300e-003	105.6853
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0143**	**0.1298**	**0.1090**	**7.8000e-004**		**9.8600e-003**	**9.8600e-003**		**9.8600e-003**	**9.8600e-003**	**0.0000**	**141.2540**	**141.2540**	**2.7000e-003**	**2.6000e-003**	**142.0934**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	41168.4	10.7977	5.0000e-004	9.0000e-005	10.8381
Convenience Market With Gas Pumps	41123.3	10.7858	5.0000e-004	9.0000e-005	10.8262
Fast Food Restaurant w/o Drive Thru	93630.6	24.5575	1.1500e-003	2.1000e-004	24.6494
Fast Food Restaurant with Drive Thru	341856	89.6622	4.1900e-003	7.8000e-004	89.9980
Parking Lot	82633.3	21.6731	1.0100e-003	1.9000e-004	21.7543
Total		**157.4764**	**7.3500e-003**	**1.3600e-003**	**158.0660**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	41168.4	10.7977	5.0000e-004	9.0000e-005	10.8381
Convenience Market With Gas Pumps	41123.3	10.7858	5.0000e-004	9.0000e-005	10.8262
Fast Food Restaurant w/o Drive Thru	93630.6	24.5575	1.1500e-003	2.1000e-004	24.6494
Fast Food Restaurant with Drive Thru	341856	89.6622	4.1900e-003	7.8000e-004	89.9980
Parking Lot	82633.3	21.6731	1.0100e-003	1.9000e-004	21.7543
Total		**157.4764**	**7.3500e-003**	**1.3600e-003**	**158.0660**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0858	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003
Unmitigated	0.0858	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0748					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003
Total	**0.0858**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.6000e-004**	**9.6000e-004**	**0.0000**	**0.0000**	**1.0200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0109					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0748					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.0000e-005	0.0000	5.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	9.6000e-004	9.6000e-004	0.0000	0.0000	1.0200e-003
Total	**0.0858**	**0.0000**	**5.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**9.6000e-004**	**9.6000e-004**	**0.0000**	**0.0000**	**1.0200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.3348	0.0885	2.1700e-003	14.1922
Unmitigated	14.1685	0.1106	2.7100e-003	17.7402

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.381969 / 0.23411	2.1079	0.0125	3.1000e-004	2.5140
Convenience Market With Gas Pumps	0.209144 / 0.128185	1.1541	6.8700e-003	1.7000e-004	1.3765
Fast Food Restaurant w/o Drive Thru	0.597961 / 0.0381678	2.3431	0.0196	4.8000e-004	2.9753
Fast Food Restaurant with Drive Thru	2.18544 / 0.139496	8.5635	0.0716	1.7500e-003	10.8743
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**14.1685**	**0.1106**	**2.7100e-003**	**17.7402**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.305575 / 0.187288	1.6863	0.0100	2.5000e-004	2.0112
Convenience Market With Gas Pumps	0.167315 / 0.102548	0.9233	5.4900e-003	1.4000e-004	1.1012
Fast Food Restaurant w/o Drive Thru	0.478369 / 0.0305342	1.8745	0.0157	3.8000e-004	2.3803
Fast Food Restaurant with Drive Thru	1.74835 / 0.111597	6.8508	0.0573	1.4000e-003	8.6995
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**11.3348**	**0.0885**	**2.1700e-003**	**14.1922**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.4427	1.0899	0.0000	45.6911
Unmitigated	24.5903	1.4533	0.0000	60.9215

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	15.51	3.1484	0.1861	0.0000	7.8000
Fast Food Restaurant w/o Drive Thru	22.69	4.6059	0.2722	0.0000	11.4108
Fast Food Restaurant with Drive Thru	82.94	16.8361	0.9950	0.0000	41.7107
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**24.5903**	**1.4532**	**0.0000**	**60.9215**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	11.6325	2.3613	0.1396	0.0000	5.8500
Fast Food Restaurant w/o Drive Thru	17.0175	3.4544	0.2042	0.0000	8.5581
Fast Food Restaurant with Drive Thru	62.205	12.6271	0.7462	0.0000	31.2830
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**18.4427**	**1.0899**	**0.0000**	**45.6911**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations (Annual)

Bamiyan Marketplace Ph 2

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.59	Acre	1.59	69,042.60	0
Condo/Townhouse	14.00	Dwelling Unit	0.00	14,000.00	40
Strip Mall	17.20	1000sqft	0.39	17,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE Intensity Factor with RPS 2020 Compliance

Land Use - Condos on second floor above retail.

Construction Phase -

Vehicle Trips - TIS Trip Generation Rates

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mixes for each land use.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	HHD	0.07	2.4500e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDA	0.55	0.61
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	1.5100e-003
tblFleetMix	LHD2	4.9700e-003	0.00
tblFleetMix	LHD2	4.9700e-003	1.5100e-003
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MHD	0.02	6.0900e-004

tblFleetMix	MHD	0.02	6.6200e-003
tblFleetMix	OBUS	1.3970e-003	0.00
tblFleetMix	SBUS	9.3200e-004	0.00
tblFleetMix	UBUS	1.1600e-003	0.00
tblLandUse	LandUseSquareFeet	69,260.40	69,042.60
tblLandUse	LotAcreage	0.88	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.35
tblVehicleTrips	ST_TR	42.04	44.35
tblVehicleTrips	SU_TR	4.84	7.35
tblVehicleTrips	SU_TR	20.43	44.35
tblVehicleTrips	WD_TR	5.81	7.35
tblVehicleTrips	WD_TR	44.32	44.35

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0262	0.2042	0.1811	3.8000e-004	0.0169	9.2100e-003	0.0261	6.9400e-003	8.8400e-003	0.0158	0.0000	32.5858	32.5858	4.9800e-003	0.0000	32.7103
2022	0.3052	1.2825	1.3217	2.7800e-003	0.0539	0.0547	0.1087	0.0145	0.0528	0.0673	0.0000	237.1551	237.1551	0.0332	0.0000	237.9850
Maximum	**0.3052**	**1.2825**	**1.3217**	**2.7800e-003**	**0.0539**	**0.0547**	**0.1087**	**0.0145**	**0.0528**	**0.0673**	**0.0000**	**237.1551**	**237.1551**	**0.0332**	**0.0000**	**237.9850**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.0262	0.2042	0.1811	3.8000e-004	0.0115	9.2100e-003	0.0207	4.1700e-003	8.8400e-003	0.0130	0.0000	32.5858	32.5858	4.9800e-003	0.0000	32.7103
2022	0.3052	1.2825	1.3217	2.7800e-003	0.0539	0.0547	0.1087	0.0145	0.0528	0.0673	0.0000	237.1549	237.1549	0.0332	0.0000	237.9848
Maximum	**0.3052**	**1.2825**	**1.3217**	**2.7800e-003**	**0.0539**	**0.0547**	**0.1087**	**0.0145**	**0.0528**	**0.0673**	**0.0000**	**237.1549**	**237.1549**	**0.0332**	**0.0000**	**237.9848**

	ROG	NOx	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**	**7.63**	**0.00**	**4.02**	**12.91**	**0.00**	**3.35**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	11-25-2021	2-24-2022	0.5370	0.5370
2	2-25-2022	5-24-2022	0.5050	0.5050
3	5-25-2022	8-24-2022	0.5222	0.5222
4	8-25-2022	9-30-2022	0.2147	0.2147
		Highest	0.5370	0.5370

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1808	5.3000e-003	0.2338	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0939	4.5810	4.6600e-003	1.0000e-004	4.7277
Energy	1.9200e-003	0.0165	7.7900e-003	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	103.0015	103.0015	4.2900e-003	1.0700e-003	103.4288
Mobile	0.1935	0.2973	2.0937	6.4100e-003	0.6757	4.4200e-003	0.6801	0.1797	4.0800e-003	0.1838	0.0000	581.0430	581.0430	0.0173	0.0000	581.4744
Waste						0.0000	0.0000		0.0000	0.0000	4.9733	0.0000	4.9733	0.2939	0.0000	12.3211
Water						0.0000	0.0000		0.0000	0.0000	0.6936	11.4173	12.1109	0.0718	1.7800e-003	14.4358
Total	**0.3762**	**0.3191**	**2.3352**	**6.7400e-003**	**0.6757**	**0.0199**	**0.6956**	**0.1797**	**0.0196**	**0.1993**	**7.1539**	**698.5557**	**705.7096**	**0.3919**	**2.9500e-003**	**716.3878**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1352	4.2800e-003	0.1459	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	3.2620	3.2620	2.9000e-004	6.0000e-005	3.2857
Energy	1.9200e-003	0.0165	7.7900e-003	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	103.0015	103.0015	4.2900e-003	1.0700e-003	103.4288
Mobile	0.1903	0.2839	1.9858	5.9900e-003	0.6291	4.1700e-003	0.6332	0.1673	3.8500e-003	0.1711	0.0000	542.7805	542.7805	0.0163	0.0000	543.1885
Waste						0.0000	0.0000		0.0000	0.0000	3.7300	0.0000	3.7300	0.2204	0.0000	9.2408
Water						0.0000	0.0000		0.0000	0.0000	0.5549	9.1338	9.6887	0.0574	1.4200e-003	11.5487
Total	**0.3274**	**0.3047**	**2.1395**	**6.1100e-003**	**0.6291**	**6.5000e-003**	**0.6356**	**0.1673**	**6.1800e-003**	**0.1735**	**4.2848**	**658.1778**	**662.4627**	**0.2988**	**2.5500e-003**	**670.6925**

	ROG	NOx	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	**12.96**	**4.52**	**8.38**	**9.35**	**6.90**	**67.35**	**8.63**	**6.90**	**68.42**	**12.94**	**40.11**	**5.78**	**6.13**	**23.77**	**13.56**	**6.38**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/25/2021	11/30/2021	5	4	
2	Building Construction	Building Construction	12/1/2021	9/6/2022	5	200	
3	Paving	Paving	9/7/2022	9/20/2022	5	10	
4	Architectural Coating	Architectural Coating	9/21/2022	10/4/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.59

Residential Indoor: 28,350; Residential Outdoor: 9,450; Non-Residential Indoor: 25,800; Non-Residential Outdoor: 8,600; Striped Parking Area: 4,143 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	45.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5800e-003	0.0287	0.0127	3.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	2.4767	2.4767	8.0000e-004	0.0000	2.4968
Total	**2.5800e-003**	**0.0287**	**0.0127**	**3.0000e-005**	**9.8300e-003**	**1.2800e-003**	**0.0111**	**5.0500e-003**	**1.1700e-003**	**6.2200e-003**	**0.0000**	**2.4767**	**2.4767**	**8.0000e-004**	**0.0000**	**2.4968**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1422	0.1422	0.0000	0.0000	0.1423
Total	**7.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1422**	**0.1422**	**0.0000**	**0.0000**	**0.1423**

3.2 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.4200e-003	0.0000	4.4200e-003	2.2700e-003	0.0000	2.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.5800e-003	0.0287	0.0127	3.0000e-005		1.2800e-003	1.2800e-003		1.1700e-003	1.1700e-003	0.0000	2.4767	2.4767	8.0000e-004	0.0000	2.4968
Total	**2.5800e-003**	**0.0287**	**0.0127**	**3.0000e-005**	**4.4200e-003**	**1.2800e-003**	**5.7000e-003**	**2.2700e-003**	**1.1700e-003**	**3.4400e-003**	**0.0000**	**2.4767**	**2.4767**	**8.0000e-004**	**0.0000**	**2.4968**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0000e-005	5.0000e-005	5.0000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1422	0.1422	0.0000	0.0000	0.1423
Total	**7.0000e-005**	**5.0000e-005**	**5.0000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1422**	**0.1422**	**0.0000**	**0.0000**	**0.1423**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9712
Total	**0.0208**	**0.1568**	**0.1483**	**2.5000e-004**		**7.8700e-003**	**7.8700e-003**		**7.6000e-003**	**7.6000e-003**	**0.0000**	**20.8780**	**20.8780**	**3.7300e-003**	**0.0000**	**20.9712**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4000e-004	0.0172	3.3000e-003	5.0000e-005	1.1600e-003	3.0000e-005	1.1900e-003	3.4000e-004	3.0000e-005	3.7000e-004	0.0000	4.4891	4.4891	3.4000e-004	0.0000	4.4977
Worker	2.2200e-003	1.5000e-003	0.0163	5.0000e-005	5.6900e-003	3.0000e-005	5.7200e-003	1.5100e-003	3.0000e-005	1.5400e-003	0.0000	4.5998	4.5998	1.1000e-004	0.0000	4.6025
Total	**2.6600e-003**	**0.0187**	**0.0196**	**1.0000e-004**	**6.8500e-003**	**6.0000e-005**	**6.9100e-003**	**1.8500e-003**	**6.0000e-005**	**1.9100e-003**	**0.0000**	**9.0889**	**9.0889**	**4.5000e-004**	**0.0000**	**9.1001**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0208	0.1568	0.1483	2.5000e-004		7.8700e-003	7.8700e-003		7.6000e-003	7.6000e-003	0.0000	20.8780	20.8780	3.7300e-003	0.0000	20.9711
Total	**0.0208**	**0.1568**	**0.1483**	**2.5000e-004**		**7.8700e-003**	**7.8700e-003**		**7.6000e-003**	**7.6000e-003**	**0.0000**	**20.8780**	**20.8780**	**3.7300e-003**	**0.0000**	**20.9711**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.4000e-004	0.0172	3.3000e-003	5.0000e-005	1.1600e-003	3.0000e-005	1.1900e-003	3.4000e-004	3.0000e-005	3.7000e-004	0.0000	4.4891	4.4891	3.4000e-004	0.0000	4.4977
Worker	2.2200e-003	1.5000e-003	0.0163	5.0000e-005	5.6900e-003	3.0000e-005	5.7200e-003	1.5100e-003	3.0000e-005	1.5400e-003	0.0000	4.5998	4.5998	1.1000e-004	0.0000	4.6025
Total	**2.6600e-003**	**0.0187**	**0.0196**	**1.0000e-004**	**6.8500e-003**	**6.0000e-005**	**6.9100e-003**	**1.8500e-003**	**6.0000e-005**	**1.9100e-003**	**0.0000**	**9.0889**	**9.0889**	**4.5000e-004**	**0.0000**	**9.1001**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1459	1.1065	1.1263	1.9500e-003		0.0521	0.0521		0.0503	0.0503	0.0000	160.6956	160.6956	0.0280	0.0000	161.3953
Total	**0.1459**	**1.1065**	**1.1263**	**1.9500e-003**		**0.0521**	**0.0521**		**0.0503**	**0.0503**	**0.0000**	**160.6956**	**160.6956**	**0.0280**	**0.0000**	**161.3953**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1500e-003	0.1244	0.0237	3.6000e-004	8.9400e-003	2.1000e-004	9.1600e-003	2.5800e-003	2.0000e-004	2.7800e-003	0.0000	34.2494	34.2494	2.5000e-003	0.0000	34.3119
Worker	0.0160	0.0104	0.1155	3.8000e-004	0.0438	2.6000e-004	0.0440	0.0116	2.4000e-004	0.0119	0.0000	34.1066	34.1066	7.4000e-004	0.0000	34.1251
Total	**0.0192**	**0.1347**	**0.1392**	**7.4000e-004**	**0.0527**	**4.7000e-004**	**0.0532**	**0.0142**	**4.4000e-004**	**0.0146**	**0.0000**	**68.3560**	**68.3560**	**3.2400e-003**	**0.0000**	**68.4370**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1459	1.1065	1.1263	1.9500e-003		0.0521	0.0521		0.0503	0.0503	0.0000	160.6954	160.6954	0.0280	0.0000	161.3951
Total	**0.1459**	**1.1065**	**1.1263**	**1.9500e-003**		**0.0521**	**0.0521**		**0.0503**	**0.0503**	**0.0000**	**160.6954**	**160.6954**	**0.0280**	**0.0000**	**161.3951**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.1500e-003	0.1244	0.0237	3.6000e-004	8.9400e-003	2.1000e-004	9.1600e-003	2.5800e-003	2.0000e-004	2.7800e-003	0.0000	34.2494	34.2494	2.5000e-003	0.0000	34.3119
Worker	0.0160	0.0104	0.1155	3.8000e-004	0.0438	2.6000e-004	0.0440	0.0116	2.4000e-004	0.0119	0.0000	34.1066	34.1066	7.4000e-004	0.0000	34.1251
Total	**0.0192**	**0.1347**	**0.1392**	**7.4000e-004**	**0.0527**	**4.7000e-004**	**0.0532**	**0.0142**	**4.4000e-004**	**0.0146**	**0.0000**	**68.3560**	**68.3560**	**3.2400e-003**	**0.0000**	**68.4370**

3.4 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9315
Paving	2.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5200e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9315**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	1.8800e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5567	0.5567	1.0000e-005	0.0000	0.5570
Total	**2.6000e-004**	**1.7000e-004**	**1.8800e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5567**	**0.5567**	**1.0000e-005**	**0.0000**	**0.5570**

3.4 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4400e-003	0.0339	0.0440	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	5.8848	5.8848	1.8700e-003	0.0000	5.9314
Paving	2.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5200e-003**	**0.0339**	**0.0440**	**7.0000e-005**		**1.7400e-003**	**1.7400e-003**		**1.6000e-003**	**1.6000e-003**	**0.0000**	**5.8848**	**5.8848**	**1.8700e-003**	**0.0000**	**5.9314**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.7000e-004	1.8800e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5567	0.5567	1.0000e-005	0.0000	0.5570
Total	**2.6000e-004**	**1.7000e-004**	**1.8800e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5567**	**0.5567**	**1.0000e-005**	**0.0000**	**0.5570**

3.5 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1331					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1341**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3854	0.3854	1.0000e-005	0.0000	0.3856
Total	**1.8000e-004**	**1.2000e-004**	**1.3000e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3854**	**0.3854**	**1.0000e-005**	**0.0000**	**0.3856**

3.5 Architectural Coating - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.1331					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.1341**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.8000e-004	1.2000e-004	1.3000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.3854	0.3854	1.0000e-005	0.0000	0.3856
Total	**1.8000e-004**	**1.2000e-004**	**1.3000e-003**	**0.0000**	**4.9000e-004**	**0.0000**	**5.0000e-004**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**0.3854**	**0.3854**	**1.0000e-005**	**0.0000**	**0.3856**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1903	0.2839	1.9858	5.9900e-003	0.6291	4.1700e-003	0.6332	0.1673	3.8500e-003	0.1711	0.0000	542.7805	542.7805	0.0163	0.0000	543.1885
Unmitigated	0.1935	0.2973	2.0937	6.4100e-003	0.6757	4.4200e-003	0.6801	0.1797	4.0800e-003	0.1838	0.0000	581.0430	581.0430	0.0173	0.0000	581.4744

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	102.90	102.90	102.90	351,412	327,165
Parking Lot	0.00	0.00	0.00		
Strip Mall	762.82	762.82	762.82	1,451,338	1,351,195
Total	865.72	865.72	865.72	1,802,750	1,678,360

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.596746	0.040316	0.203498	0.126167	0.021870	0.000000	0.000609	0.001791	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Strip Mall	0.606414	0.040970	0.206795	0.128211	0.001510	0.001510	0.006620	0.002450	0.000000	0.000000	0.004547	0.000000	0.000965

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	84.0321	84.0321	3.9200e-003	7.3000e-004	84.3467
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	84.0321	84.0321	3.9200e-003	7.3000e-004	84.3467
NaturalGas Mitigated	1.9200e-003	0.0165	7.7900e-003	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9694	18.9694	3.6000e-004	3.5000e-004	19.0821
NaturalGas Unmitigated	1.9200e-003	0.0165	7.7900e-003	1.0000e-004		1.3200e-003	1.3200e-003		1.3200e-003	1.3200e-003	0.0000	18.9694	18.9694	3.6000e-004	3.5000e-004	19.0821

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	317289	1.7100e-003	0.0146	6.2200e-003	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	16.9318	16.9318	3.2000e-004	3.1000e-004	17.0324
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	38184	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0376	2.0376	4.0000e-005	4.0000e-005	2.0498
Total		**1.9200e-003**	**0.0165**	**7.7900e-003**	**1.0000e-004**		**1.3200e-003**	**1.3200e-003**		**1.3200e-003**	**1.3200e-003**	**0.0000**	**18.9694**	**18.9694**	**3.6000e-004**	**3.5000e-004**	**19.0821**

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	tons/yr										MT/yr					
Condo/Townhouse	317289	1.7100e-003	0.0146	6.2200e-003	9.0000e-005		1.1800e-003	1.1800e-003		1.1800e-003	1.1800e-003	0.0000	16.9318	16.9318	3.2000e-004	3.1000e-004	17.0324
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Strip Mall	38184	2.1000e-004	1.8700e-003	1.5700e-003	1.0000e-005		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	2.0376	2.0376	4.0000e-005	4.0000e-005	2.0498
Total		**1.9200e-003**	**0.0165**	**7.7900e-003**	**1.0000e-004**		**1.3200e-003**	**1.3200e-003**		**1.3200e-003**	**1.3200e-003**	**0.0000**	**18.9694**	**18.9694**	**3.6000e-004**	**3.5000e-004**	**19.0821**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	78988.8	20.7173	9.7000e-004	1.8000e-004	20.7948
Parking Lot	24164.9	6.3380	3.0000e-004	5.0000e-005	6.3617
Strip Mall	217236	56.9768	2.6600e-003	4.9000e-004	57.1902
Total		**84.0321**	**3.9300e-003**	**7.2000e-004**	**84.3467**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	78988.8	20.7173	9.7000e-004	1.8000e-004	20.7948
Parking Lot	24164.9	6.3380	3.0000e-004	5.0000e-005	6.3617
Strip Mall	217236	56.9768	2.6600e-003	4.9000e-004	57.1902
Total		**84.0321**	**3.9300e-003**	**7.2000e-004**	**84.3467**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1352	4.2800e-003	0.1459	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.0000	3.2620	3.2620	2.9000e-004	6.0000e-005	3.2857
Unmitigated	0.1808	5.3000e-003	0.2338	2.3000e-004		0.0142	0.0142		0.0142	0.0142	1.4871	3.0939	4.5810	4.6600e-003	1.0000e-004	4.7277

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0459	3.6300e-003	0.0890	2.3000e-004		0.0134	0.0134		0.0134	0.0134	1.4871	2.8576	4.3447	4.4300e-003	1.0000e-004	4.4856
Landscaping	4.3900e-003	1.6700e-003	0.1448	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2363	0.2363	2.3000e-004	0.0000	0.2420
Total	**0.1808**	**5.3000e-003**	**0.2338**	**2.4000e-004**		**0.0142**	**0.0142**		**0.0142**	**0.0142**	**1.4871**	**3.0939**	**4.5810**	**4.6600e-003**	**1.0000e-004**	**4.7277**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1172					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.1000e-004	2.6100e-003	1.1100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	3.0257	3.0257	6.0000e-005	6.0000e-005	3.0437
Landscaping	4.3900e-003	1.6700e-003	0.1448	1.0000e-005		8.0000e-004	8.0000e-004		8.0000e-004	8.0000e-004	0.0000	0.2363	0.2363	2.3000e-004	0.0000	0.2420
Total	**0.1352**	**4.2800e-003**	**0.1459**	**3.0000e-005**		**1.0100e-003**	**1.0100e-003**		**1.0100e-003**	**1.0100e-003**	**0.0000**	**3.2620**	**3.2620**	**2.9000e-004**	**6.0000e-005**	**3.2857**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	9.6887	0.0574	1.4200e-003	11.5487
Unmitigated	12.1109	0.0718	1.7800e-003	14.4358

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.912156 / 0.575055	5.0802	0.0300	7.4000e-004	6.0504
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.27405 / 0.780868	7.0307	0.0418	1.0400e-003	8.3855
Total		**12.1109**	**0.0718**	**1.7800e-003**	**14.4358**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	0.729725 / 0.460044	4.0642	0.0240	5.9000e-004	4.8403
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Strip Mall	1.01924 / 0.624694	5.6245	0.0335	8.3000e-004	6.7084
Total		**9.6887**	**0.0574**	**1.4200e-003**	**11.5487**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	3.7300	0.2204	0.0000	9.2408
Unmitigated	4.9733	0.2939	0.0000	12.3211

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	6.44	1.3073	0.0773	0.0000	3.2387
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	18.06	3.6660	0.2167	0.0000	9.0824
Total		**4.9733**	**0.2939**	**0.0000**	**12.3211**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	4.83	0.9805	0.0579	0.0000	2.4290
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Strip Mall	13.545	2.7495	0.1625	0.0000	6.8118
Total		**3.7300**	**0.2204**	**0.0000**	**9.2408**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations (Annual)

Bamiyan Marketplace Phase 3

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	66.00	Dwelling Unit	3.95	66,000.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE Intensity Factors with RPS compliance in 2020

Land Use - Site Plan

Construction Phase -

Vehicle Trips - Trip generation rate from the project TIS

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mix for residential 2023

Bamiyan Marketplace Phase 3 - Riverside-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	4.8060e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MHD	0.02	6.0900e-004
tblLandUse	LotAcreage	4.13	3.95
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.33
tblVehicleTrips	SU_TR	4.84	7.33
tblVehicleTrips	WD_TR	5.81	7.33

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0607	0.5334	0.5543	1.0400e-003	0.0426	0.0261	0.0687	0.0179	0.0245	0.0424	0.0000	90.6209	90.6209	0.0192	0.0000	91.1017
2023	0.3720	1.4002	1.6758	3.1100e-003	0.0530	0.0661	0.1191	0.0142	0.0622	0.0763	0.0000	271.1210	271.1210	0.0546	0.0000	272.4858
Maximum	**0.3720**	**1.4002**	**1.6758**	**3.1100e-003**	**0.0530**	**0.0661**	**0.1191**	**0.0179**	**0.0622**	**0.0763**	**0.0000**	**271.1210**	**271.1210**	**0.0546**	**0.0000**	**272.4858**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0607	0.5334	0.5543	1.0400e-003	0.0282	0.0261	0.0543	0.0104	0.0245	0.0349	0.0000	90.6208	90.6208	0.0192	0.0000	91.1017
2023	0.3720	1.4002	1.6758	3.1100e-003	0.0530	0.0661	0.1191	0.0142	0.0622	0.0763	0.0000	271.1207	271.1207	0.0546	0.0000	272.4855
Maximum	**0.3720**	**1.4002**	**1.6758**	**3.1100e-003**	**0.0530**	**0.0661**	**0.1191**	**0.0142**	**0.0622**	**0.0763**	**0.0000**	**271.1207**	**271.1207**	**0.0546**	**0.0000**	**272.4855**

	ROG	NOx	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**	**15.07**	**0.00**	**7.67**	**23.15**	**0.00**	**6.24**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-5-2022	1-4-2023	0.6147	0.6147
2	1-5-2023	4-4-2023	0.5377	0.5377
3	4-5-2023	7-4-2023	0.5438	0.5438
4	7-5-2023	9-30-2023	0.4702	0.4702
		Highest	0.6147	0.6147

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4958	0.0250	1.1003	1.1100e-003		0.0668	0.0668		0.0668	0.0668	7.0105	14.5835	21.5940	0.0220	4.8000e-004	22.2851
Energy	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	177.4882	177.4882	6.0900e-003	2.3100e-003	178.3283
Mobile	0.1200	0.2580	1.6318	5.5800e-003	0.6214	4.0300e-003	0.6254	0.1656	3.7300e-003	0.1693	0.0000	507.3893	507.3893	0.0155	0.0000	507.7766
Waste						0.0000	0.0000		0.0000	0.0000	6.1628	0.0000	6.1628	0.3642	0.0000	15.2681
Water						0.0000	0.0000		0.0000	0.0000	1.3642	22.5854	23.9496	0.1412	3.5000e-003	28.5231
Total	**0.6239**	**0.3518**	**2.7615**	**7.1300e-003**	**0.6214**	**0.0764**	**0.6978**	**0.1656**	**0.0761**	**0.2417**	**14.5375**	**722.0464**	**736.5840**	**0.5490**	**6.2900e-003**	**752.1812**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2811	0.0202	0.6860	1.1000e-004		4.7600e-003	4.7600e-003		4.7600e-003	4.7600e-003	0.0000	15.3760	15.3760	1.3400e-003	2.6000e-004	15.4875
Energy	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	177.4882	177.4882	6.0900e-003	2.3100e-003	178.3283
Mobile	0.1171	0.2432	1.5381	5.2100e-003	0.5785	3.7800e-003	0.5823	0.1542	3.5000e-003	0.1577	0.0000	473.3195	473.3195	0.0145	0.0000	473.6830
Waste						0.0000	0.0000		0.0000	0.0000	4.6221	0.0000	4.6221	0.2732	0.0000	11.4511
Water						0.0000	0.0000		0.0000	0.0000	1.0914	18.0683	19.1597	0.1129	2.8000e-003	22.8185
Total	**0.4062**	**0.3323**	**2.2535**	**5.7600e-003**	**0.5785**	**0.0141**	**0.5926**	**0.1542**	**0.0138**	**0.1680**	**5.7135**	**684.2520**	**689.9655**	**0.4081**	**5.3700e-003**	**701.7683**

	ROG	NOx	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	**34.89**	**5.56**	**18.40**	**19.21**	**6.90**	**81.53**	**15.07**	**6.90**	**81.82**	**30.49**	**60.70**	**5.23**	**6.33**	**25.66**	**14.63**	**6.70**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/5/2022	10/14/2022	5	8	
2	Building Construction	Building Construction	10/15/2022	9/1/2023	5	230	
3	Paving	Paving	9/2/2023	9/27/2023	5	18	
4	Architectural Coating	Architectural Coating	9/28/2023	10/23/2023	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 133,650; Residential Outdoor: 44,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	48.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0262	0.0000	0.0262	0.0135	0.0000	0.0135	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	**7.7900e-003**	**0.0834**	**0.0611**	**1.2000e-004**	**0.0262**	**3.7600e-003**	**0.0300**	**0.0135**	**3.4600e-003**	**0.0169**	**0.0000**	**10.4219**	**10.4219**	**3.3700e-003**	**0.0000**	**10.5062**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5139	0.5139	1.0000e-005	0.0000	0.5141
Total	**2.4000e-004**	**1.6000e-004**	**1.7400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5139**	**0.5139**	**1.0000e-005**	**0.0000**	**0.5141**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0118	0.0000	0.0118	6.0600e-003	0.0000	6.0600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.7900e-003	0.0834	0.0611	1.2000e-004		3.7600e-003	3.7600e-003		3.4600e-003	3.4600e-003	0.0000	10.4219	10.4219	3.3700e-003	0.0000	10.5062
Total	**7.7900e-003**	**0.0834**	**0.0611**	**1.2000e-004**	**0.0118**	**3.7600e-003**	**0.0156**	**6.0600e-003**	**3.4600e-003**	**9.5200e-003**	**0.0000**	**10.4219**	**10.4219**	**3.3700e-003**	**0.0000**	**10.5062**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4000e-004	1.6000e-004	1.7400e-003	1.0000e-005	6.6000e-004	0.0000	6.6000e-004	1.8000e-004	0.0000	1.8000e-004	0.0000	0.5139	0.5139	1.0000e-005	0.0000	0.5141
Total	**2.4000e-004**	**1.6000e-004**	**1.7400e-003**	**1.0000e-005**	**6.6000e-004**	**0.0000**	**6.6000e-004**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**0.5139**	**0.5139**	**1.0000e-005**	**0.0000**	**0.5141**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0469	0.4294	0.4500	7.4000e-004		0.0223	0.0223		0.0209	0.0209	0.0000	63.7244	63.7244	0.0153	0.0000	64.1061
Total	**0.0469**	**0.4294**	**0.4500**	**7.4000e-004**		**0.0223**	**0.0223**		**0.0209**	**0.0209**	**0.0000**	**63.7244**	**63.7244**	**0.0153**	**0.0000**	**64.1061**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0169	3.2200e-003	5.0000e-005	1.2200e-003	3.0000e-005	1.2400e-003	3.5000e-004	3.0000e-005	3.8000e-004	0.0000	4.6561	4.6561	3.4000e-004	0.0000	4.6646
Worker	5.3000e-003	3.4300e-003	0.0383	1.2000e-004	0.0145	8.0000e-005	0.0146	3.8500e-003	8.0000e-005	3.9300e-003	0.0000	11.3046	11.3046	2.5000e-004	0.0000	11.3108
Total	**5.7300e-003**	**0.0203**	**0.0415**	**1.7000e-004**	**0.0157**	**1.1000e-004**	**0.0158**	**4.2000e-003**	**1.1000e-004**	**4.3100e-003**	**0.0000**	**15.9607**	**15.9607**	**5.9000e-004**	**0.0000**	**15.9753**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0469	0.4294	0.4500	7.4000e-004		0.0223	0.0223		0.0209	0.0209	0.0000	63.7244	63.7244	0.0153	0.0000	64.1060
Total	**0.0469**	**0.4294**	**0.4500**	**7.4000e-004**		**0.0223**	**0.0223**		**0.0209**	**0.0209**	**0.0000**	**63.7244**	**63.7244**	**0.0153**	**0.0000**	**64.1060**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.3000e-004	0.0169	3.2200e-003	5.0000e-005	1.2200e-003	3.0000e-005	1.2400e-003	3.5000e-004	3.0000e-005	3.8000e-004	0.0000	4.6561	4.6561	3.4000e-004	0.0000	4.6646
Worker	5.3000e-003	3.4300e-003	0.0383	1.2000e-004	0.0145	8.0000e-005	0.0146	3.8500e-003	8.0000e-005	3.9300e-003	0.0000	11.3046	11.3046	2.5000e-004	0.0000	11.3108
Total	**5.7300e-003**	**0.0203**	**0.0415**	**1.7000e-004**	**0.0157**	**1.1000e-004**	**0.0158**	**4.2000e-003**	**1.1000e-004**	**4.3100e-003**	**0.0000**	**15.9607**	**15.9607**	**5.9000e-004**	**0.0000**	**15.9753**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1376	1.2587	1.4214	2.3600e-003		0.0612	0.0612		0.0576	0.0576	0.0000	202.8292	202.8292	0.0483	0.0000	204.0354
Total	**0.1376**	**1.2587**	**1.4214**	**2.3600e-003**		**0.0612**	**0.0612**		**0.0576**	**0.0576**	**0.0000**	**202.8292**	**202.8292**	**0.0483**	**0.0000**	**204.0354**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0400e-003	0.0402	8.9100e-003	1.5000e-004	3.8700e-003	4.0000e-005	3.9100e-003	1.1200e-003	4.0000e-005	1.1600e-003	0.0000	14.4245	14.4245	8.3000e-004	0.0000	14.4452
Worker	0.0159	9.8400e-003	0.1123	3.8000e-004	0.0462	2.6000e-004	0.0464	0.0123	2.4000e-004	0.0125	0.0000	34.6041	34.6041	7.0000e-004	0.0000	34.6217
Total	**0.0169**	**0.0501**	**0.1212**	**5.3000e-004**	**0.0500**	**3.0000e-004**	**0.0503**	**0.0134**	**2.8000e-004**	**0.0137**	**0.0000**	**49.0286**	**49.0286**	**1.5300e-003**	**0.0000**	**49.0668**

3.3 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1376	1.2587	1.4214	2.3600e-003		0.0612	0.0612		0.0576	0.0576	0.0000	202.8289	202.8289	0.0483	0.0000	204.0352
Total	**0.1376**	**1.2587**	**1.4214**	**2.3600e-003**		**0.0612**	**0.0612**		**0.0576**	**0.0576**	**0.0000**	**202.8289**	**202.8289**	**0.0483**	**0.0000**	**204.0352**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0400e-003	0.0402	8.9100e-003	1.5000e-004	3.8700e-003	4.0000e-005	3.9100e-003	1.1200e-003	4.0000e-005	1.1600e-003	0.0000	14.4245	14.4245	8.3000e-004	0.0000	14.4452
Worker	0.0159	9.8400e-003	0.1123	3.8000e-004	0.0462	2.6000e-004	0.0464	0.0123	2.4000e-004	0.0125	0.0000	34.6041	34.6041	7.0000e-004	0.0000	34.6217
Total	**0.0169**	**0.0501**	**0.1212**	**5.3000e-004**	**0.0500**	**3.0000e-004**	**0.0503**	**0.0134**	**2.8000e-004**	**0.0137**	**0.0000**	**49.0286**	**49.0286**	**1.5300e-003**	**0.0000**	**49.0668**

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2600e-003**	**0.0791**	**0.1097**	**1.7000e-004**		**3.9200e-003**	**3.9200e-003**		**3.6200e-003**	**3.6200e-003**	**0.0000**	**14.7407**	**14.7407**	**4.6300e-003**	**0.0000**	**14.8565**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.2000e-004	4.8100e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.4830	1.4830	3.0000e-005	0.0000	1.4838
Total	**6.8000e-004**	**4.2000e-004**	**4.8100e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.4830**	**1.4830**	**3.0000e-005**	**0.0000**	**1.4838**

3.4 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.2600e-003	0.0791	0.1097	1.7000e-004		3.9200e-003	3.9200e-003		3.6200e-003	3.6200e-003	0.0000	14.7407	14.7407	4.6300e-003	0.0000	14.8565
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.2600e-003**	**0.0791**	**0.1097**	**1.7000e-004**		**3.9200e-003**	**3.9200e-003**		**3.6200e-003**	**3.6200e-003**	**0.0000**	**14.7407**	**14.7407**	**4.6300e-003**	**0.0000**	**14.8565**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.8000e-004	4.2000e-004	4.8100e-003	2.0000e-005	1.9800e-003	1.0000e-005	1.9900e-003	5.3000e-004	1.0000e-005	5.4000e-004	0.0000	1.4830	1.4830	3.0000e-005	0.0000	1.4838
Total	**6.8000e-004**	**4.2000e-004**	**4.8100e-003**	**2.0000e-005**	**1.9800e-003**	**1.0000e-005**	**1.9900e-003**	**5.3000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.4830**	**1.4830**	**3.0000e-005**	**0.0000**	**1.4838**

3.5 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2065					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.2082**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.1000e-004	2.4100e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7415	0.7415	2.0000e-005	0.0000	0.7419
Total	**3.4000e-004**	**2.1000e-004**	**2.4100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7415**	**0.7415**	**2.0000e-005**	**0.0000**	**0.7419**

3.5 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.2065					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7200e-003	0.0117	0.0163	3.0000e-005		6.4000e-004	6.4000e-004		6.4000e-004	6.4000e-004	0.0000	2.2979	2.2979	1.4000e-004	0.0000	2.3014
Total	**0.2082**	**0.0117**	**0.0163**	**3.0000e-005**		**6.4000e-004**	**6.4000e-004**		**6.4000e-004**	**6.4000e-004**	**0.0000**	**2.2979**	**2.2979**	**1.4000e-004**	**0.0000**	**2.3014**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.4000e-004	2.1000e-004	2.4100e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7415	0.7415	2.0000e-005	0.0000	0.7419
Total	**3.4000e-004**	**2.1000e-004**	**2.4100e-003**	**1.0000e-005**	**9.9000e-004**	**1.0000e-005**	**9.9000e-004**	**2.6000e-004**	**1.0000e-005**	**2.7000e-004**	**0.0000**	**0.7415**	**0.7415**	**2.0000e-005**	**0.0000**	**0.7419**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1171	0.2432	1.5381	5.2100e-003	0.5785	3.7800e-003	0.5823	0.1542	3.5000e-003	0.1577	0.0000	473.3195	473.3195	0.0145	0.0000	473.6830
Unmitigated	0.1200	0.2580	1.6318	5.5800e-003	0.6214	4.0300e-003	0.6254	0.1656	3.7300e-003	0.1693	0.0000	507.3893	507.3893	0.0155	0.0000	507.7766

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	483.78	483.78	483.78	1,652,150	1,538,151
Total	483.78	483.78	483.78	1,652,150	1,538,151

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.599817	0.039634	0.204347	0.123051	0.021870	0.000000	0.000609	0.001791	0.001409	0.001147	0.004508	0.000918	0.000898

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	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	97.6670	97.6670	4.5600e-003	8.4000e-004	98.0327
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	97.6670	97.6670	4.5600e-003	8.4000e-004	98.0327
NaturalGas Mitigated	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	79.8212	79.8212	1.5300e-003	1.4600e-003	80.2956
NaturalGas Unmitigated	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	79.8212	79.8212	1.5300e-003	1.4600e-003	80.2956

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Condo/Townhouse	1.49579e+006	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	79.8212	79.8212	1.5300e-003	1.4600e-003	80.2956
Total		**8.0700e-003**	**0.0689**	**0.0293**	**4.4000e-004**		**5.5700e-003**	**5.5700e-003**		**5.5700e-003**	**5.5700e-003**	**0.0000**	**79.8212**	**79.8212**	**1.5300e-003**	**1.4600e-003**	**80.2956**

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	tons/yr										MT/yr					
Condo/Townhouse	1.49579e+006	8.0700e-003	0.0689	0.0293	4.4000e-004		5.5700e-003	5.5700e-003		5.5700e-003	5.5700e-003	0.0000	79.8212	79.8212	1.5300e-003	1.4600e-003	80.2956
Total		**8.0700e-003**	**0.0689**	**0.0293**	**4.4000e-004**		**5.5700e-003**	**5.5700e-003**		**5.5700e-003**	**5.5700e-003**	**0.0000**	**79.8212**	**79.8212**	**1.5300e-003**	**1.4600e-003**	**80.2956**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	372376	97.6670	4.5600e-003	8.4000e-004	98.0327
Total		**97.6670**	**4.5600e-003**	**8.4000e-004**	**98.0327**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	372376	97.6670	4.5600e-003	8.4000e-004	98.0327
Total		**97.6670**	**4.5600e-003**	**8.4000e-004**	**98.0327**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2811	0.0202	0.6860	1.1000e-004		4.7600e-003	4.7600e-003		4.7600e-003	4.7600e-003	0.0000	15.3760	15.3760	1.3400e-003	2.6000e-004	15.4875
Unmitigated	0.4958	0.0250	1.1003	1.1100e-003		0.0668	0.0668		0.0668	0.0668	7.0105	14.5835	21.5940	0.0220	4.8000e-004	22.2851

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0207					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2385					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2162	0.0171	0.4196	1.0700e-003		0.0630	0.0630		0.0630	0.0630	7.0105	13.4717	20.4822	0.0209	4.8000e-004	21.1466
Landscaping	0.0205	7.8500e-003	0.6808	4.0000e-005		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	1.1118	1.1118	1.0700e-003	0.0000	1.1385
Total	**0.4958**	**0.0250**	**1.1004**	**1.1100e-003**		**0.0668**	**0.0668**		**0.0668**	**0.0668**	**7.0105**	**14.5835**	**21.5940**	**0.0220**	**4.8000e-004**	**22.2851**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0207					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2385					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.4400e-003	0.0123	5.2400e-003	8.0000e-005		1.0000e-003	1.0000e-003		1.0000e-003	1.0000e-003	0.0000	14.2642	14.2642	2.7000e-004	2.6000e-004	14.3489
Landscaping	0.0205	7.8500e-003	0.6808	4.0000e-005		3.7700e-003	3.7700e-003		3.7700e-003	3.7700e-003	0.0000	1.1118	1.1118	1.0700e-003	0.0000	1.1385
Total	**0.2811**	**0.0202**	**0.6860**	**1.2000e-004**		**4.7700e-003**	**4.7700e-003**		**4.7700e-003**	**4.7700e-003**	**0.0000**	**15.3760**	**15.3760**	**1.3400e-003**	**2.6000e-004**	**15.4874**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.1597	0.1129	2.8000e-003	22.8185
Unmitigated	23.9496	0.1412	3.5000e-003	28.5231

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	4.30017 / 2.71097	23.9496	0.1412	3.5000e-003	28.5231
Total		**23.9496**	**0.1412**	**3.5000e-003**	**28.5231**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.44013 / 2.16878	19.1597	0.1129	2.8000e-003	22.8185
Total		**19.1597**	**0.1129**	**2.8000e-003**	**22.8185**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	4.6221	0.2732	0.0000	11.4511
Unmitigated	6.1628	0.3642	0.0000	15.2681

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	30.36	6.1628	0.3642	0.0000	15.2681
Total		**6.1628**	**0.3642**	**0.0000**	**15.2681**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	22.77	4.6221	0.2732	0.0000	11.4511
Total		**4.6221**	**0.2732**	**0.0000**	**11.4511**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Site Preparation and Grading (Summer Daily)

Bamiyan Marketplace Mass Grading

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	1.00	1000sqft	11.85	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site prep for entire site

Construction Phase -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.02	11.85

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					
2020	4.1681	42.4715	22.2394	0.0400	18.2675	2.1986	20.4661	9.9840	2.0227	12.0068	0.0000	3,883.3886	3,883.3886	1.1969	0.0000	3,913.3116
Maximum	**4.1681**	**42.4715**	**22.2394**	**0.0400**	**18.2675**	**2.1986**	**20.4661**	**9.9840**	**2.0227**	**12.0068**	**0.0000**	**3,883.3886**	**3,883.3886**	**1.1969**	**0.0000**	**3,913.3116**

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					
2020	4.1681	42.4715	22.2394	0.0400	8.3310	2.1986	10.5297	4.5222	2.0227	6.5449	0.0000	3,883.3886	3,883.3886	1.1969	0.0000	3,913.3116
Maximum	**4.1681**	**42.4715**	**22.2394**	**0.0400**	**8.3310**	**2.1986**	**10.5297**	**4.5222**	**2.0227**	**6.5449**	**0.0000**	**3,883.3886**	**3,883.3886**	**1.1969**	**0.0000**	**3,913.3116**

	ROG	NOx	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**	**54.39**	**0.00**	**48.55**	**54.71**	**0.00**	**45.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Mobile	0.0764	0.5155	0.6747	2.7000e-003	0.1798	1.8400e-003	0.1817	0.0481	1.7300e-003	0.0499		276.0245	276.0245	0.0168		276.4450
Total	**0.0988**	**0.5161**	**0.6753**	**2.7000e-003**	**0.1798**	**1.8900e-003**	**0.1817**	**0.0481**	**1.7800e-003**	**0.0499**		**276.7403**	**276.7403**	**0.0168**	**1.0000e-005**	**277.1650**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Mobile	0.0764	0.5155	0.6747	2.7000e-003	0.1798	1.8400e-003	0.1817	0.0481	1.7300e-003	0.0499		276.0245	276.0245	0.0168		276.4450
Total	**0.0988**	**0.5161**	**0.6753**	**2.7000e-003**	**0.1798**	**1.8900e-003**	**0.1817**	**0.0481**	**1.7800e-003**	**0.0499**		**276.7403**	**276.7403**	**0.0168**	**1.0000e-005**	**277.1650**

	ROG	NOx	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2020	10/14/2020	5	10	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

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	0.0916	0.0542	0.7258	1.9900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		198.2870	198.2870	5.0800e-003		198.4141
Total	**0.0916**	**0.0542**	**0.7258**	**1.9900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**198.2870**	**198.2870**	**5.0800e-003**		**198.4141**

3.2 Site Preparation - 2020

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**8.1298**	**2.1974**	**10.3272**	**4.4688**	**2.0216**	**6.4904**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

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	0.0916	0.0542	0.7258	1.9900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		198.2870	198.2870	5.0800e-003		198.4141
Total	**0.0916**	**0.0542**	**0.7258**	**1.9900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**198.2870**	**198.2870**	**5.0800e-003**		**198.4141**

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	0.0764	0.5155	0.6747	2.7000e-003	0.1798	1.8400e-003	0.1817	0.0481	1.7300e-003	0.0499		276.0245	276.0245	0.0168		276.4450
Unmitigated	0.0764	0.5155	0.6747	2.7000e-003	0.1798	1.8400e-003	0.1817	0.0481	1.7300e-003	0.0499		276.0245	276.0245	0.0168		276.4450

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	44.32	42.04	20.43	77,210	77,210
Total	44.32	42.04	20.43	77,210	77,210

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
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
NaturalGas Unmitigated	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198

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					
Strip Mall	6.08219	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Total		**7.0000e-005**	**6.0000e-004**	**5.0000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.7156**	**0.7156**	**1.0000e-005**	**1.0000e-005**	**0.7198**

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					
Strip Mall	0.00608219	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Total		**7.0000e-005**	**6.0000e-004**	**5.0000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.7156**	**0.7156**	**1.0000e-005**	**1.0000e-005**	**0.7198**

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					
Mitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Site Preparation and Grading (Winter Daily)

Bamiyan Marketplace Mass Grading

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	1.00	1000sqft	11.85	1,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Site prep for entire site

Construction Phase -

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LotAcreage	0.02	11.85

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					
2020	4.1662	42.4734	22.1007	0.0398	18.2675	2.1986	20.4661	9.9840	2.0227	12.0068	0.0000	3,862.9840	3,862.9840	1.1963	0.0000	3,892.8904
Maximum	**4.1662**	**42.4734**	**22.1007**	**0.0398**	**18.2675**	**2.1986**	**20.4661**	**9.9840**	**2.0227**	**12.0068**	**0.0000**	**3,862.9840**	**3,862.9840**	**1.1963**	**0.0000**	**3,892.8904**

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					
2020	4.1662	42.4734	22.1007	0.0398	8.3310	2.1986	10.5297	4.5222	2.0227	6.5449	0.0000	3,862.9840	3,862.9840	1.1963	0.0000	3,892.8904
Maximum	**4.1662**	**42.4734**	**22.1007**	**0.0398**	**8.3310**	**2.1986**	**10.5297**	**4.5222**	**2.0227**	**6.5449**	**0.0000**	**3,862.9840**	**3,862.9840**	**1.1963**	**0.0000**	**3,892.8904**

	ROG	NOx	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**	**54.39**	**0.00**	**48.55**	**54.71**	**0.00**	**45.49**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Mobile	0.0638	0.5104	0.6094	2.4800e-003	0.1798	1.8700e-003	0.1817	0.0481	1.7600e-003	0.0499		253.9773	253.9773	0.0178		254.4230
Total	**0.0862**	**0.5110**	**0.6100**	**2.4800e-003**	**0.1798**	**1.9200e-003**	**0.1818**	**0.0481**	**1.8100e-003**	**0.0499**		**254.6931**	**254.6931**	**0.0178**	**1.0000e-005**	**255.1430**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Energy	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Mobile	0.0638	0.5104	0.6094	2.4800e-003	0.1798	1.8700e-003	0.1817	0.0481	1.7600e-003	0.0499		253.9773	253.9773	0.0178		254.4230
Total	**0.0862**	**0.5110**	**0.6100**	**2.4800e-003**	**0.1798**	**1.9200e-003**	**0.1818**	**0.0481**	**1.8100e-003**	**0.0499**		**254.6931**	**254.6931**	**0.0178**	**1.0000e-005**	**255.1430**

	ROG	NOx	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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/1/2020	10/14/2020	5	10	

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; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37

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
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2020

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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216		3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**18.0663**	**2.1974**	**20.2637**	**9.9307**	**2.0216**	**11.9523**		**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

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	0.0897	0.0560	0.5871	1.7900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		177.8824	177.8824	4.4200e-003		177.9929
Total	**0.0897**	**0.0560**	**0.5871**	**1.7900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**177.8824**	**177.8824**	**4.4200e-003**		**177.9929**

3.2 Site Preparation - 2020

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					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.0765	42.4173	21.5136	0.0380		2.1974	2.1974		2.0216	2.0216	0.0000	3,685.1016	3,685.1016	1.1918		3,714.8975
Total	**4.0765**	**42.4173**	**21.5136**	**0.0380**	**8.1298**	**2.1974**	**10.3272**	**4.4688**	**2.0216**	**6.4904**	**0.0000**	**3,685.1016**	**3,685.1016**	**1.1918**		**3,714.8975**

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	0.0897	0.0560	0.5871	1.7900e-003	0.2012	1.2200e-003	0.2024	0.0534	1.1200e-003	0.0545		177.8824	177.8824	4.4200e-003		177.9929
Total	**0.0897**	**0.0560**	**0.5871**	**1.7900e-003**	**0.2012**	**1.2200e-003**	**0.2024**	**0.0534**	**1.1200e-003**	**0.0545**		**177.8824**	**177.8824**	**4.4200e-003**		**177.9929**

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	0.0638	0.5104	0.6094	2.4800e-003	0.1798	1.8700e-003	0.1817	0.0481	1.7600e-003	0.0499		253.9773	253.9773	0.0178		254.4230
Unmitigated	0.0638	0.5104	0.6094	2.4800e-003	0.1798	1.8700e-003	0.1817	0.0481	1.7600e-003	0.0499		253.9773	253.9773	0.0178		254.4230

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Strip Mall	44.32	42.04	20.43	77,210	77,210
Total	44.32	42.04	20.43	77,210	77,210

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
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Strip Mall	0.542116	0.037578	0.185203	0.118503	0.016241	0.005141	0.017392	0.068695	0.001383	0.001183	0.004582	0.000945	0.001038

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	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
NaturalGas Unmitigated	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198

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					
Strip Mall	6.08219	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Total		**7.0000e-005**	**6.0000e-004**	**5.0000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.7156**	**0.7156**	**1.0000e-005**	**1.0000e-005**	**0.7198**

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					
Strip Mall	0.00608219	7.0000e-005	6.0000e-004	5.0000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.7156	0.7156	1.0000e-005	1.0000e-005	0.7198
Total		**7.0000e-005**	**6.0000e-004**	**5.0000e-004**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.7156**	**0.7156**	**1.0000e-005**	**1.0000e-005**	**0.7198**

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					
Mitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Unmitigated	0.0224	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5400e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0198					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.0000e-005	0.0000	1.0000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		2.2000e-004	2.2000e-004	0.0000		2.3000e-004
Total	**0.0224**	**0.0000**	**1.0000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**2.2000e-004**	**2.2000e-004**	**0.0000**		**2.3000e-004**

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 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 1 Construction and Operations

(Summer Daily)

Bamiyan Marketplace Phase 1

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.42	Acre	5.42	236,095.20	0
Fast Food Restaurant w/o Drive Thru	1.97	1000sqft	0.05	1,972.00	0
Fast Food Restaurant with Drive Thru	7.20	1000sqft	0.17	7,200.00	0
Automobile Care Center	4.06	1000sqft	0.09	4,056.00	0
Convenience Market With Gas Pumps	20.00	Pump	0.06	3,256.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Summer

Project Characteristics - SCE Intensity Factors with Compliance for RPS in 2020

Land Use - Site plan building sizes. Auto care center used for automated carwash.

Construction Phase -

Vehicle Trips - Trip Generation Rates and passby from project Traffic Impact Study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Mixed use project provides diversity.

Area Mitigation -

Water Mitigation -

Waste Mitigation - Achieve 75 percent diversion mandate

Fleet Mix - Project specific fleet mix based on expected truck deliveries. Auto Care Center used for Carwash

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	0.00
tblFleetMix	HHD	0.07	6.5000e-004
tblFleetMix	HHD	0.07	4.2100e-004
tblFleetMix	HHD	0.07	2.0000e-006
tblFleetMix	HHD	0.07	0.07
tblFleetMix	LDA	0.54	0.61
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.60
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04

tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.18
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1410e-003	0.00
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	MCY	4.5820e-003	0.00
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	0.05
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003

tblFleetMix	MHD	0.02	4.2100e-004
tblFleetMix	MHD	0.02	1.3200e-003
tblFleetMix	MHD	0.02	1.2630e-003
tblFleetMix	MHD	0.02	3.0000e-006
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	1.3650e-003
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	9.5900e-004
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	1.2130e-003
tblLandUse	LandUseSquareFeet	1,970.00	1,972.00
tblLandUse	LandUseSquareFeet	4,060.00	4,056.00
tblLandUse	LandUseSquareFeet	2,823.50	3,256.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	DV_TP	51.00	21.00

tblVehicleTrips	PB_TP	28.00	56.00
tblVehicleTrips	PB_TP	65.00	56.00
tblVehicleTrips	PB_TP	12.00	50.00
tblVehicleTrips	PR_TP	21.00	23.00
tblVehicleTrips	PR_TP	14.00	23.00
tblVehicleTrips	PR_TP	51.00	13.00
tblVehicleTrips	ST_TR	23.72	168.29
tblVehicleTrips	ST_TR	204.47	162.80
tblVehicleTrips	ST_TR	696.00	346.43
tblVehicleTrips	ST_TR	722.03	470.96
tblVehicleTrips	SU_TR	11.88	168.29
tblVehicleTrips	SU_TR	166.88	162.80
tblVehicleTrips	SU_TR	500.00	346.43
tblVehicleTrips	SU_TR	542.72	470.96
tblVehicleTrips	WD_TR	23.72	168.29
tblVehicleTrips	WD_TR	542.60	162.80
tblVehicleTrips	WD_TR	716.00	346.43
tblVehicleTrips	WD_TR	496.12	470.96

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					
2020	2.7684	26.4310	21.8540	0.0492	6.7200	1.2744	7.9945	3.4120	1.1725	4.5844	0.0000	4,838.8401	4,838.8401	0.9333	0.0000	4,857.2699
2021	11.2418	21.5098	21.1341	0.0488	1.4362	0.9728	2.4090	0.3869	0.9146	1.3014	0.0000	4,791.6815	4,791.6815	0.7228	0.0000	4,809.7521
Maximum	**11.2418**	**26.4310**	**21.8540**	**0.0492**	**6.7200**	**1.2744**	**7.9945**	**3.4120**	**1.1725**	**4.5844**	**0.0000**	**4,838.8401**	**4,838.8401**	**0.9333**	**0.0000**	**4,857.2699**

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					
2020	2.7684	26.4310	21.8540	0.0492	3.1162	1.2744	4.3907	1.5598	1.1725	2.7323	0.0000	4,838.8401	4,838.8401	0.9333	0.0000	4,857.2699
2021	11.2418	21.5098	21.1341	0.0488	1.4362	0.9728	2.4090	0.3869	0.9146	1.3014	0.0000	4,791.6815	4,791.6815	0.7228	0.0000	4,809.7521
Maximum	**11.2418**	**26.4310**	**21.8540**	**0.0492**	**3.1162**	**1.2744**	**4.3907**	**1.5598**	**1.1725**	**2.7323**	**0.0000**	**4,838.8401**	**4,838.8401**	**0.9333**	**0.0000**	**4,857.2699**

	ROG	NOx	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**	**44.18**	**0.00**	**34.64**	**48.76**	**0.00**	**31.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Energy	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
Mobile	16.4057	9.0892	93.8422	0.1744	15.9532	0.1349	16.0880	4.2375	0.1248	4.3623		17,329.9882	17,329.9882	0.9472		17,353.6677
Total	**16.9542**	**9.8002**	**94.4434**	**0.1787**	**15.9532**	**0.1889**	**16.1421**	**4.2375**	**0.1788**	**4.4163**		**18,183.1794**	**18,183.1794**	**0.9636**	**0.0156**	**18,211.9295**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Energy	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
Mobile	16.1893	8.6631	89.3612	0.1633	14.8524	0.1285	14.9809	3.9451	0.1189	4.0640		16,223.5363	16,223.5363	0.8949		16,245.9098
Total	**16.7377**	**9.3742**	**89.9624**	**0.1676**	**14.8524**	**0.1825**	**15.0349**	**3.9451**	**0.1729**	**4.1180**		**17,076.7275**	**17,076.7275**	**0.9113**	**0.0156**	**17,104.1716**

	ROG	NOx	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	**1.28**	**4.35**	**4.74**	**6.22**	**6.90**	**3.37**	**6.86**	**6.90**	**3.30**	**6.75**	**0.00**	**6.09**	**6.09**	**5.42**	**0.00**	**6.08**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/15/2020	11/11/2020	5	20	
2	Building Construction	Building Construction	11/12/2020	9/29/2021	5	230	
3	Paving	Paving	9/30/2021	10/27/2021	5	20	
4	Architectural Coating	Architectural Coating	10/28/2021	11/24/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 5.42

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,726; Non-Residential Outdoor: 8,242; Striped Parking Area: 14,166 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	105.00	41.00	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
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

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	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

3.2 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**2.9486**	**1.2734**	**4.2220**	**1.5154**	**1.1716**	**2.6869**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

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	0.0763	0.0451	0.6048	1.6600e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		165.2392	165.2392	4.2400e-003		165.3451
Total	**0.0763**	**0.0451**	**0.6048**	**1.6600e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**165.2392**	**165.2392**	**4.2400e-003**		**165.3451**

3.3 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	0.1143	4.2186	0.7718	0.0107	0.2626	0.0240	0.2865	0.0756	0.0230	0.0986		1,129.1028	1,129.1028	0.0847		1,131.2200
Worker	0.5343	0.3160	4.2338	0.0116	1.1737	7.1100e-003	1.1808	0.3113	6.5400e-003	0.3178		1,156.6743	1,156.6743	0.0297		1,157.4155
Total	**0.6486**	**4.5346**	**5.0055**	**0.0223**	**1.4362**	**0.0311**	**1.4673**	**0.3869**	**0.0295**	**0.4164**		**2,285.7771**	**2,285.7771**	**0.1143**		**2,288.6355**

3.3 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	0.1143	4.2186	0.7718	0.0107	0.2626	0.0240	0.2865	0.0756	0.0230	0.0986		1,129.1028	1,129.1028	0.0847		1,131.2200
Worker	0.5343	0.3160	4.2338	0.0116	1.1737	7.1100e-003	1.1808	0.3113	6.5400e-003	0.3178		1,156.6743	1,156.6743	0.0297		1,157.4155
Total	**0.6486**	**4.5346**	**5.0055**	**0.0223**	**1.4362**	**0.0311**	**1.4673**	**0.3869**	**0.0295**	**0.4164**		**2,285.7771**	**2,285.7771**	**0.1143**		**2,288.6355**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0957	3.7941	0.6769	0.0106	0.2625	7.2200e-003	0.2698	0.0756	6.9000e-003	0.0825		1,120.3292	1,120.3292	0.0802		1,122.3329
Worker	0.4978	0.2836	3.8820	0.0112	1.1737	6.9200e-003	1.1806	0.3113	6.3700e-003	0.3176		1,117.9885	1,117.9885	0.0267		1,118.6549
Total	**0.5935**	**4.0777**	**4.5589**	**0.0218**	**1.4362**	**0.0141**	**1.4503**	**0.3869**	**0.0133**	**0.4001**		**2,238.3176**	**2,238.3176**	**0.1068**		**2,240.9878**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.0957	3.7941	0.6769	0.0106	0.2625	7.2200e-003	0.2698	0.0756	6.9000e-003	0.0825		1,120.3292	1,120.3292	0.0802		1,122.3329
Worker	0.4978	0.2836	3.8820	0.0112	1.1737	6.9200e-003	1.1806	0.3113	6.3700e-003	0.3176		1,117.9885	1,117.9885	0.0267		1,118.6549
Total	**0.5935**	**4.0777**	**4.5589**	**0.0218**	**1.4362**	**0.0141**	**1.4503**	**0.3869**	**0.0133**	**0.4001**		**2,238.3176**	**2,238.3176**	**0.1068**		**2,240.9878**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9656**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9656**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	0.0711	0.0405	0.5546	1.6000e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		159.7126	159.7126	3.8100e-003		159.8078
Total	**0.0711**	**0.0405**	**0.5546**	**1.6000e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**159.7126**	**159.7126**	**3.8100e-003**		**159.8078**

3.5 Architectural Coating - 2021

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	10.9233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**11.1422**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0996	0.0567	0.7764	2.2400e-003	0.2347	1.3800e-003	0.2361	0.0623	1.2700e-003	0.0635		223.5977	223.5977	5.3300e-003		223.7310
Total	**0.0996**	**0.0567**	**0.7764**	**2.2400e-003**	**0.2347**	**1.3800e-003**	**0.2361**	**0.0623**	**1.2700e-003**	**0.0635**		**223.5977**	**223.5977**	**5.3300e-003**		**223.7310**

3.5 Architectural Coating - 2021

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	10.9233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**11.1422**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0996	0.0567	0.7764	2.2400e-003	0.2347	1.3800e-003	0.2361	0.0623	1.2700e-003	0.0635		223.5977	223.5977	5.3300e-003		223.7310
Total	**0.0996**	**0.0567**	**0.7764**	**2.2400e-003**	**0.2347**	**1.3800e-003**	**0.2361**	**0.0623**	**1.2700e-003**	**0.0635**		**223.5977**	**223.5977**	**5.3300e-003**		**223.7310**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	16.1893	8.6631	89.3612	0.1633	14.8524	0.1285	14.9809	3.9451	0.1189	4.0640		16,223.5363	16,223.5363	0.8949		16,245.9098
Unmitigated	16.4057	9.0892	93.8422	0.1744	15.9532	0.1349	16.0880	4.2375	0.1248	4.3623		17,329.9882	17,329.9882	0.9472		17,353.6677

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	683.26	683.26	683.26	774,204	720,784
Convenience Market With Gas Pumps	3,256.00	3,256.00	3256.00	2,805,354	2,611,784
Fast Food Restaurant w/o Drive Thru	682.47	682.47	682.47	467,760	435,485
Fast Food Restaurant with Drive Thru	3,390.91	3,390.91	3390.91	3,568,553	3,322,323
Parking Lot	0.00	0.00	0.00		
Total	8,012.64	8,012.64	8,012.64	7,615,871	7,090,376

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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	23	21	56
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	23	21	56
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	13	37	50
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.608412	0.043476	0.208498	0.138074	0.000000	0.000000	0.000421	0.000000	0.000000	0.000000	0.000000	0.000000	0.001120
Convenience Market With Gas Pumps	0.590794	0.042217	0.202460	0.134076	0.017402	0.005339	0.001320	0.000650	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant w/o Drive Thru	0.590964	0.042229	0.202519	0.134114	0.017402	0.005339	0.001263	0.000421	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant with Drive Thru	0.597096	0.041389	0.203986	0.130521	0.016241	0.005141	0.000003	0.000002	0.000000	0.000000	0.045820	0.000000	0.001038
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive 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	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
NaturalGas Unmitigated	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528

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					
Automobile Care Center	361.04	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4752	42.4752	8.1000e-004	7.8000e-004	42.7277
Convenience Market With Gas Pumps	19.8036	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		2.3298	2.3298	4.0000e-005	4.0000e-005	2.3437
Fast Food Restaurant w/o Drive Thru	1477.33	0.0159	0.1448	0.1217	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.8030	173.8030	3.3300e-003	3.1900e-003	174.8358
Fast Food Restaurant with Drive Thru	5393.88	0.0582	0.5288	0.4442	3.1700e-003		0.0402	0.0402		0.0402	0.0402		634.5747	634.5747	0.0122	0.0116	638.3457
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		**0.0782**	**0.7110**	**0.5972**	**4.2600e-003**		**0.0540**	**0.0540**		**0.0540**	**0.0540**		**853.1827**	**853.1827**	**0.0163**	**0.0156**	**858.2528**

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					
Automobile Care Center	0.36104	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4752	42.4752	8.1000e-004	7.8000e-004	42.7277
Convenience Market With Gas Pumps	0.0198036	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		2.3298	2.3298	4.0000e-005	4.0000e-005	2.3437
Fast Food Restaurant w/o Drive Thru	1.47733	0.0159	0.1448	0.1217	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.8030	173.8030	3.3300e-003	3.1900e-003	174.8358
Fast Food Restaurant with Drive Thru	5.39388	0.0582	0.5288	0.4442	3.1700e-003		0.0402	0.0402		0.0402	0.0402		634.5747	634.5747	0.0122	0.0116	638.3457
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		**0.0782**	**0.7110**	**0.5972**	**4.2600e-003**		**0.0540**	**0.0540**		**0.0540**	**0.0540**		**853.1827**	**853.1827**	**0.0163**	**0.0156**	**858.2528**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Unmitigated	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0599					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Total	**0.4702**	**4.0000e-005**	**3.9600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.4600e-003**	**8.4600e-003**	**2.0000e-005**		**9.0200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0599					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Total	**0.4702**	**4.0000e-005**	**3.9600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.4600e-003**	**8.4600e-003**	**2.0000e-005**		**9.0200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 1 Construction and Operations

(Winter Daily)

Bamiyan Marketplace Phase 1

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	5.42	Acre	5.42	236,095.20	0
Fast Food Restaurant w/o Drive Thru	1.97	1000sqft	0.05	1,972.00	0
Fast Food Restaurant with Drive Thru	7.20	1000sqft	0.17	7,200.00	0
Automobile Care Center	4.06	1000sqft	0.09	4,056.00	0
Convenience Market With Gas Pumps	20.00	Pump	0.06	3,256.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2021
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Winter

Project Characteristics - SCE Intensity Factors with Compliance for RPS in 2020

Land Use - Site plan building sizes. Auto care center used for automated carwash.

Construction Phase -

Vehicle Trips - Trip Generation Rates and passby from project Traffic Impact Study

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation - Mixed use project provides diversity.

Area Mitigation -

Water Mitigation -

Waste Mitigation - Achieve 75 percent diversion mandate

Fleet Mix - Project specific fleet mix based on expected truck deliveries. Auto Care Center used for Carwash

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	0.00
tblFleetMix	HHD	0.07	6.5000e-004
tblFleetMix	HHD	0.07	4.2100e-004
tblFleetMix	HHD	0.07	2.0000e-006
tblFleetMix	HHD	0.07	0.07
tblFleetMix	LDA	0.54	0.61
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.59
tblFleetMix	LDA	0.54	0.60
tblFleetMix	LDA	0.54	0.54
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04

tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.18
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD2	5.1410e-003	0.00
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	LHD2	5.1410e-003	5.3390e-003
tblFleetMix	MCY	4.5820e-003	0.00
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MCY	4.5820e-003	0.05
tblFleetMix	MCY	4.5820e-003	4.6290e-003
tblFleetMix	MDV	0.12	0.14
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.12
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003
tblFleetMix	MH	1.0380e-003	1.1200e-003

tblFleetMix	MHD	0.02	4.2100e-004
tblFleetMix	MHD	0.02	1.3200e-003
tblFleetMix	MHD	0.02	1.2630e-003
tblFleetMix	MHD	0.02	3.0000e-006
tblFleetMix	MHD	0.02	0.02
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	0.00
tblFleetMix	OBUS	1.3830e-003	1.3650e-003
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	0.00
tblFleetMix	SBUS	9.4500e-004	9.5900e-004
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.1830e-003	1.2130e-003
tblLandUse	LandUseSquareFeet	1,970.00	1,972.00
tblLandUse	LandUseSquareFeet	4,060.00	4,056.00
tblLandUse	LandUseSquareFeet	2,823.50	3,256.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	DV_TP	51.00	21.00

tblVehicleTrips	PB_TP	28.00	56.00
tblVehicleTrips	PB_TP	65.00	56.00
tblVehicleTrips	PB_TP	12.00	50.00
tblVehicleTrips	PR_TP	21.00	23.00
tblVehicleTrips	PR_TP	14.00	23.00
tblVehicleTrips	PR_TP	51.00	13.00
tblVehicleTrips	ST_TR	23.72	168.29
tblVehicleTrips	ST_TR	204.47	162.80
tblVehicleTrips	ST_TR	696.00	346.43
tblVehicleTrips	ST_TR	722.03	470.96
tblVehicleTrips	SU_TR	11.88	168.29
tblVehicleTrips	SU_TR	166.88	162.80
tblVehicleTrips	SU_TR	500.00	346.43
tblVehicleTrips	SU_TR	542.72	470.96
tblVehicleTrips	WD_TR	23.72	168.29
tblVehicleTrips	WD_TR	542.60	162.80
tblVehicleTrips	WD_TR	716.00	346.43
tblVehicleTrips	WD_TR	496.12	470.96

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					
2020	2.7637	26.4326	21.1770	0.0476	6.7200	1.2744	7.9945	3.4120	1.1725	4.5844	0.0000	4,677.3860	4,677.3860	0.9327	0.0000	4,695.9577
2021	11.2399	21.4868	20.5095	0.0472	1.4362	0.9730	2.4092	0.3869	0.9148	1.3016	0.0000	4,634.5073	4,634.5073	0.7285	0.0000	4,652.7197
Maximum	**11.2399**	**26.4326**	**21.1770**	**0.0476**	**6.7200**	**1.2744**	**7.9945**	**3.4120**	**1.1725**	**4.5844**	**0.0000**	**4,677.3860**	**4,677.3860**	**0.9327**	**0.0000**	**4,695.9577**

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					
2020	2.7637	26.4326	21.1770	0.0476	3.1162	1.2744	4.3907	1.5598	1.1725	2.7323	0.0000	4,677.3860	4,677.3860	0.9327	0.0000	4,695.9577
2021	11.2399	21.4868	20.5095	0.0472	1.4362	0.9730	2.4092	0.3869	0.9148	1.3016	0.0000	4,634.5073	4,634.5073	0.7285	0.0000	4,652.7197
Maximum	**11.2399**	**26.4326**	**21.1770**	**0.0476**	**3.1162**	**1.2744**	**4.3907**	**1.5598**	**1.1725**	**2.7323**	**0.0000**	**4,677.3860**	**4,677.3860**	**0.9327**	**0.0000**	**4,695.9577**

	ROG	NOx	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**	**44.18**	**0.00**	**34.64**	**48.76**	**0.00**	**31.47**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Energy	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
Mobile	12.9693	9.5221	86.8226	0.1585	15.9532	0.1349	16.0881	4.2375	0.1248	4.3623		15,740.5759	15,740.5759	0.9336		15,763.9153
Total	**13.5178**	**10.2331**	**87.4238**	**0.1627**	**15.9532**	**0.1889**	**16.1421**	**4.2375**	**0.1788**	**4.4163**		**16,593.7671**	**16,593.7671**	**0.9499**	**0.0156**	**16,622.1770**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Energy	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
Mobile	12.7595	9.0718	83.1079	0.1485	14.8524	0.1285	14.9809	3.9451	0.1189	4.0640		14,743.4416	14,743.4416	0.8843		14,765.5498
Total	**13.3079**	**9.7828**	**83.7091**	**0.1527**	**14.8524**	**0.1826**	**15.0350**	**3.9451**	**0.1730**	**4.1180**		**15,596.6328**	**15,596.6328**	**0.9007**	**0.0156**	**15,623.8116**

	ROG	NOx	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	**1.55**	**4.40**	**4.25**	**6.14**	**6.90**	**3.36**	**6.86**	**6.90**	**3.29**	**6.75**	**0.00**	**6.01**	**6.01**	**5.18**	**0.00**	**6.01**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/15/2020	11/11/2020	5	20	
2	Building Construction	Building Construction	11/12/2020	9/29/2021	5	230	
3	Paving	Paving	9/30/2021	10/27/2021	5	20	
4	Architectural Coating	Architectural Coating	10/28/2021	11/24/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 5.42

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 24,726; Non-Residential Outdoor: 8,242; Striped Parking Area: 14,166 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	105.00	41.00	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
Architectural Coating	1	21.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5523**	**1.2734**	**7.8258**	**3.3675**	**1.1716**	**4.5390**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

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	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

3.2 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**2.9486**	**1.2734**	**4.2220**	**1.5154**	**1.1716**	**2.6869**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

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	0.0748	0.0467	0.4893	1.4900e-003	0.1677	1.0200e-003	0.1687	0.0445	9.3000e-004	0.0454		148.2354	148.2354	3.6800e-003		148.3274
Total	**0.0748**	**0.0467**	**0.4893**	**1.4900e-003**	**0.1677**	**1.0200e-003**	**0.1687**	**0.0445**	**9.3000e-004**	**0.0454**		**148.2354**	**148.2354**	**3.6800e-003**		**148.3274**

3.3 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	0.1205	4.1965	0.9036	0.0103	0.2626	0.0243	0.2868	0.0756	0.0232	0.0988		1,086.6753	1,086.6753	0.0942		1,089.0313
Worker	0.5233	0.3269	3.4248	0.0104	1.1737	7.1100e-003	1.1808	0.3113	6.5400e-003	0.3178		1,037.6476	1,037.6476	0.0258		1,038.2919
Total	**0.6438**	**4.5234**	**4.3285**	**0.0207**	**1.4362**	**0.0314**	**1.4676**	**0.3869**	**0.0298**	**0.4166**		**2,124.3229**	**2,124.3229**	**0.1200**		**2,127.3232**

3.3 Building Construction - 2020

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	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

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	0.1205	4.1965	0.9036	0.0103	0.2626	0.0243	0.2868	0.0756	0.0232	0.0988		1,086.6753	1,086.6753	0.0942		1,089.0313
Worker	0.5233	0.3269	3.4248	0.0104	1.1737	7.1100e-003	1.1808	0.3113	6.5400e-003	0.3178		1,037.6476	1,037.6476	0.0258		1,038.2919
Total	**0.6438**	**4.5234**	**4.3285**	**0.0207**	**1.4362**	**0.0314**	**1.4676**	**0.3869**	**0.0298**	**0.4166**		**2,124.3229**	**2,124.3229**	**0.1200**		**2,127.3232**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1017	3.7614	0.8008	0.0102	0.2625	7.4300e-003	0.2700	0.0756	7.1100e-003	0.0827		1,078.1902	1,078.1902	0.0893		1,080.4228
Worker	0.4885	0.2933	3.1335	0.0101	1.1737	6.9200e-003	1.1806	0.3113	6.3700e-003	0.3176		1,002.9532	1,002.9532	0.0232		1,003.5326
Total	**0.5902**	**4.0547**	**3.9343**	**0.0203**	**1.4362**	**0.0144**	**1.4505**	**0.3869**	**0.0135**	**0.4003**		**2,081.1434**	**2,081.1434**	**0.1125**		**2,083.9555**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

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	0.1017	3.7614	0.8008	0.0102	0.2625	7.4300e-003	0.2700	0.0756	7.1100e-003	0.0827		1,078.1902	1,078.1902	0.0893		1,080.4228
Worker	0.4885	0.2933	3.1335	0.0101	1.1737	6.9200e-003	1.1806	0.3113	6.3700e-003	0.3176		1,002.9532	1,002.9532	0.0232		1,003.5326
Total	**0.5902**	**4.0547**	**3.9343**	**0.0203**	**1.4362**	**0.0144**	**1.4505**	**0.3869**	**0.0135**	**0.4003**		**2,081.1434**	**2,081.1434**	**0.1125**		**2,083.9555**

3.4 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9656**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.4 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9656**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

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	0.0698	0.0419	0.4476	1.4400e-003	0.1677	9.9000e-004	0.1687	0.0445	9.1000e-004	0.0454		143.2790	143.2790	3.3100e-003		143.3618
Total	**0.0698**	**0.0419**	**0.4476**	**1.4400e-003**	**0.1677**	**9.9000e-004**	**0.1687**	**0.0445**	**9.1000e-004**	**0.0454**		**143.2790**	**143.2790**	**3.3100e-003**		**143.3618**

3.5 Architectural Coating - 2021

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	10.9233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**11.1422**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0977	0.0587	0.6267	2.0100e-003	0.2347	1.3800e-003	0.2361	0.0623	1.2700e-003	0.0635		200.5907	200.5907	4.6400e-003		200.7065
Total	**0.0977**	**0.0587**	**0.6267**	**2.0100e-003**	**0.2347**	**1.3800e-003**	**0.2361**	**0.0623**	**1.2700e-003**	**0.0635**		**200.5907**	**200.5907**	**4.6400e-003**		**200.7065**

3.5 Architectural Coating - 2021

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	10.9233					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**11.1422**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

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	0.0977	0.0587	0.6267	2.0100e-003	0.2347	1.3800e-003	0.2361	0.0623	1.2700e-003	0.0635		200.5907	200.5907	4.6400e-003		200.7065
Total	**0.0977**	**0.0587**	**0.6267**	**2.0100e-003**	**0.2347**	**1.3800e-003**	**0.2361**	**0.0623**	**1.2700e-003**	**0.0635**		**200.5907**	**200.5907**	**4.6400e-003**		**200.7065**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	12.7595	9.0718	83.1079	0.1485	14.8524	0.1285	14.9809	3.9451	0.1189	4.0640		14,743.4416	14,743.4416	0.8843		14,765.5498
Unmitigated	12.9693	9.5221	86.8226	0.1585	15.9532	0.1349	16.0881	4.2375	0.1248	4.3623		15,740.5759	15,740.5759	0.9336		15,763.9153

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	683.26	683.26	683.26	774,204	720,784
Convenience Market With Gas Pumps	3,256.00	3,256.00	3256.00	2,805,354	2,611,784
Fast Food Restaurant w/o Drive Thru	682.47	682.47	682.47	467,760	435,485
Fast Food Restaurant with Drive Thru	3,390.91	3,390.91	3390.91	3,568,553	3,322,323
Parking Lot	0.00	0.00	0.00		
Total	8,012.64	8,012.64	8,012.64	7,615,871	7,090,376

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
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	23	21	56
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	23	21	56
Fast Food Restaurant w/o Drive	16.60	8.40	6.90	1.50	79.50	19.00	13	37	50
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.608412	0.043476	0.208498	0.138074	0.000000	0.000000	0.000421	0.000000	0.000000	0.000000	0.000000	0.000000	0.001120
Convenience Market With Gas Pumps	0.590794	0.042217	0.202460	0.134076	0.017402	0.005339	0.001320	0.000650	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant w/o Drive Thru	0.590964	0.042229	0.202519	0.134114	0.017402	0.005339	0.001263	0.000421	0.000000	0.000000	0.004629	0.000000	0.001120
Fast Food Restaurant with Drive Thru	0.597096	0.041389	0.203986	0.130521	0.016241	0.005141	0.000003	0.000002	0.000000	0.000000	0.045820	0.000000	0.001038
Parking Lot	0.538064	0.038449	0.184390	0.122109	0.017402	0.005339	0.017250	0.067711	0.001365	0.001213	0.004629	0.000959	0.001120

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Bamiyan Marketplace Phase 1 - Riverside-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive 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	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528
NaturalGas Unmitigated	0.0782	0.7110	0.5972	4.2700e-003		0.0540	0.0540		0.0540	0.0540		853.1827	853.1827	0.0164	0.0156	858.2528

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					
Automobile Care Center	361.04	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4752	42.4752	8.1000e-004	7.8000e-004	42.7277
Convenience Market With Gas Pumps	19.8036	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		2.3298	2.3298	4.0000e-005	4.0000e-005	2.3437
Fast Food Restaurant w/o Drive Thru	1477.33	0.0159	0.1448	0.1217	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.8030	173.8030	3.3300e-003	3.1900e-003	174.8358
Fast Food Restaurant with Drive Thru	5393.88	0.0582	0.5288	0.4442	3.1700e-003		0.0402	0.0402		0.0402	0.0402		634.5747	634.5747	0.0122	0.0116	638.3457
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		**0.0782**	**0.7110**	**0.5972**	**4.2600e-003**		**0.0540**	**0.0540**		**0.0540**	**0.0540**		**853.1827**	**853.1827**	**0.0163**	**0.0156**	**858.2528**

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					
Automobile Care Center	0.36104	3.8900e-003	0.0354	0.0297	2.1000e-004		2.6900e-003	2.6900e-003		2.6900e-003	2.6900e-003		42.4752	42.4752	8.1000e-004	7.8000e-004	42.7277
Convenience Market With Gas Pumps	0.0198036	2.1000e-004	1.9400e-003	1.6300e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		2.3298	2.3298	4.0000e-005	4.0000e-005	2.3437
Fast Food Restaurant w/o Drive Thru	1.47733	0.0159	0.1448	0.1217	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.8030	173.8030	3.3300e-003	3.1900e-003	174.8358
Fast Food Restaurant with Drive Thru	5.39388	0.0582	0.5288	0.4442	3.1700e-003		0.0402	0.0402		0.0402	0.0402		634.5747	634.5747	0.0122	0.0116	638.3457
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		**0.0782**	**0.7110**	**0.5972**	**4.2600e-003**		**0.0540**	**0.0540**		**0.0540**	**0.0540**		**853.1827**	**853.1827**	**0.0163**	**0.0156**	**858.2528**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Unmitigated	0.4702	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0599					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Total	**0.4702**	**4.0000e-005**	**3.9600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.4600e-003**	**8.4600e-003**	**2.0000e-005**		**9.0200e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0599					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.4100					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7000e-004	4.0000e-005	3.9600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		8.4600e-003	8.4600e-003	2.0000e-005		9.0200e-003
Total	**0.4702**	**4.0000e-005**	**3.9600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**8.4600e-003**	**8.4600e-003**	**2.0000e-005**		**9.0200e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations

(Summer Daily)

Bamiyan Marketplace Ph 2

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.59	Acre	1.59	69,042.60	0
Condo/Townhouse	14.00	Dwelling Unit	0.00	14,000.00	40
Strip Mall	17.20	1000sqft	0.39	17,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Bamiyan Marketplace Ph 2 - Riverside-South Coast County, Summer

Project Characteristics - SCE Intensity Factor with RPS 2020 Compliance

Land Use - Condos on second floor above retail.

Construction Phase -

Vehicle Trips - TIS Trip Generation Rates

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mixes for each land use.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	HHD	0.07	2.4500e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDA	0.55	0.61
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	1.5100e-003
tblFleetMix	LHD2	4.9700e-003	0.00
tblFleetMix	LHD2	4.9700e-003	1.5100e-003
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MHD	0.02	6.0900e-004

tblFleetMix	MHD	0.02	6.6200e-003
tblFleetMix	OBUS	1.3970e-003	0.00
tblFleetMix	SBUS	9.3200e-004	0.00
tblFleetMix	UBUS	1.1600e-003	0.00
tblLandUse	LandUseSquareFeet	69,260.40	69,042.60
tblLandUse	LotAcreage	0.88	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.35
tblVehicleTrips	ST_TR	42.04	44.35
tblVehicleTrips	SU_TR	4.84	7.35
tblVehicleTrips	SU_TR	20.43	44.35
tblVehicleTrips	WD_TR	5.81	7.35
tblVehicleTrips	WD_TR	44.32	44.35

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					
2021	2.0632	15.2382	14.8273	0.0310	5.0037	0.6901	5.6421	2.5493	0.6662	3.1367	0.0000	2,917.5596	2,917.5596	0.4435	0.0000	2,927.5588
2022	26.8693	14.0094	14.5067	0.0308	0.6054	0.5941	1.1996	0.1629	0.5738	0.7367	0.0000	2,896.6539	2,896.6539	0.4142	0.0000	2,906.3662
Maximum	**26.8693**	**15.2382**	**14.8273**	**0.0310**	**5.0037**	**0.6901**	**5.6421**	**2.5493**	**0.6662**	**3.1367**	**0.0000**	**2,917.5596**	**2,917.5596**	**0.4435**	**0.0000**	**2,927.5588**

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					
2021	2.0632	15.2382	14.8273	0.0310	2.3008	0.6901	2.9393	1.1602	0.6662	1.7476	0.0000	2,917.5596	2,917.5596	0.4435	0.0000	2,927.5588
2022	26.8693	14.0094	14.5067	0.0308	0.6054	0.5941	1.1996	0.1629	0.5738	0.7367	0.0000	2,896.6539	2,896.6539	0.4142	0.0000	2,906.3662
Maximum	**26.8693**	**15.2382**	**14.8273**	**0.0310**	**2.3008**	**0.6901**	**2.9393**	**1.1602**	**0.6662**	**1.7476**	**0.0000**	**2,917.5596**	**2,917.5596**	**0.4435**	**0.0000**	**2,927.5588**

	ROG	NOx	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**	**48.19**	**0.00**	**39.51**	**51.22**	**0.00**	**35.86**	**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	4.4188	0.3038	8.2779	0.0182		1.0758	1.0758		1.0758	1.0758	131.1369	254.0839	385.2207	0.3931	8.9000e-003	397.7004
Energy	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
Mobile	1.3256	1.5596	12.8944	0.0381	3.7753	0.0243	3.7996	1.0027	0.0225	1.0252		3,805.7848	3,805.7848	0.1098		3,808.5294
Total	**5.7548**	**1.9538**	**21.2150**	**0.0569**	**3.7753**	**1.1074**	**4.8827**	**1.0027**	**1.1055**	**2.1083**	**131.1369**	**4,174.4451**	**4,305.5819**	**0.5051**	**0.0110**	**4,321.4871**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7747	0.2224	1.2471	1.4000e-003		0.0233	0.0233		0.0233	0.0233	0.0000	268.9074	268.9074	7.1300e-003	4.8900e-003	270.5434
Energy	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
Mobile	1.3067	1.4907	12.1828	0.0356	3.5148	0.0229	3.5378	0.9335	0.0212	0.9547		3,554.4063	3,554.4063	0.1036		3,556.9961
Total	**2.0919**	**1.8034**	**13.4726**	**0.0376**	**3.5148**	**0.0535**	**3.5683**	**0.9335**	**0.0517**	**0.9853**	**0.0000**	**3,937.8901**	**3,937.8901**	**0.1129**	**6.9900e-003**	**3,942.7968**

	ROG	NOx	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	**63.65**	**7.70**	**36.50**	**33.98**	**6.90**	**95.17**	**26.92**	**6.90**	**95.32**	**53.27**	**100.00**	**5.67**	**8.54**	**77.64**	**36.45**	**8.76**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/25/2021	11/30/2021	5	4	
2	Building Construction	Building Construction	12/1/2021	9/6/2022	5	200	
3	Paving	Paving	9/7/2022	9/20/2022	5	10	
4	Architectural Coating	Architectural Coating	9/21/2022	10/4/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.59

Residential Indoor: 28,350; Residential Outdoor: 9,450; Non-Residential Indoor: 25,800; Non-Residential Outdoor: 8,600; Striped Parking Area: 4,143 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	45.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2021

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

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	0.0379	0.0216	0.2958	8.5000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		85.1801	85.1801	2.0300e-003		85.2309
Total	**0.0379**	**0.0216**	**0.2958**	**8.5000e-004**	**0.0894**	**5.3000e-004**	**0.0900**	**0.0237**	**4.9000e-004**	**0.0242**		**85.1801**	**85.1801**	**2.0300e-003**		**85.2309**

3.2 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2114	0.0000	2.2114	1.1365	0.0000	1.1365			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**2.2114**	**0.6379**	**2.8493**	**1.1365**	**0.5869**	**1.7234**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

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	0.0379	0.0216	0.2958	8.5000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		85.1801	85.1801	2.0300e-003		85.2309
Total	**0.0379**	**0.0216**	**0.2958**	**8.5000e-004**	**0.0894**	**5.3000e-004**	**0.0900**	**0.0237**	**4.9000e-004**	**0.0242**		**85.1801**	**85.1801**	**2.0300e-003**		**85.2309**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

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	0.0374	1.4806	0.2642	4.1500e-003	0.1025	2.8200e-003	0.1053	0.0295	2.6900e-003	0.0322		437.2016	437.2016	0.0313		437.9836
Worker	0.2133	0.1215	1.6637	4.8100e-003	0.5030	2.9600e-003	0.5060	0.1334	2.7300e-003	0.1361		479.1379	479.1379	0.0114		479.4235
Total	**0.2507**	**1.6022**	**1.9279**	**8.9600e-003**	**0.6054**	**5.7800e-003**	**0.6112**	**0.1629**	**5.4200e-003**	**0.1683**		**916.3396**	**916.3396**	**0.0427**		**917.4071**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

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	0.0374	1.4806	0.2642	4.1500e-003	0.1025	2.8200e-003	0.1053	0.0295	2.6900e-003	0.0322		437.2016	437.2016	0.0313		437.9836
Worker	0.2133	0.1215	1.6637	4.8100e-003	0.5030	2.9600e-003	0.5060	0.1334	2.7300e-003	0.1361		479.1379	479.1379	0.0114		479.4235
Total	**0.2507**	**1.6022**	**1.9279**	**8.9600e-003**	**0.6054**	**5.7800e-003**	**0.6112**	**0.1629**	**5.4200e-003**	**0.1683**		**916.3396**	**916.3396**	**0.0427**		**917.4071**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

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	0.0348	1.3969	0.2457	4.1100e-003	0.1025	2.3700e-003	0.1048	0.0295	2.2600e-003	0.0318		433.4803	433.4803	0.0296		434.2208
Worker	0.1996	0.1094	1.5346	4.6300e-003	0.5030	2.8900e-003	0.5059	0.1334	2.6600e-003	0.1361		461.6307	461.6307	0.0103		461.8873
Total	**0.2344**	**1.5063**	**1.7803**	**8.7400e-003**	**0.6054**	**5.2600e-003**	**0.6107**	**0.1629**	**4.9200e-003**	**0.1678**		**895.1110**	**895.1110**	**0.0399**		**896.1081**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

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	0.0348	1.3969	0.2457	4.1100e-003	0.1025	2.3700e-003	0.1048	0.0295	2.2600e-003	0.0318		433.4803	433.4803	0.0296		434.2208
Worker	0.1996	0.1094	1.5346	4.6300e-003	0.5030	2.8900e-003	0.5059	0.1334	2.6600e-003	0.1361		461.6307	461.6307	0.0103		461.8873
Total	**0.2344**	**1.5063**	**1.7803**	**8.7400e-003**	**0.6054**	**5.2600e-003**	**0.6107**	**0.1629**	**4.9200e-003**	**0.1678**		**895.1110**	**895.1110**	**0.0399**		**896.1081**

3.4 Paving - 2022

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.4166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1043**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

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	0.0577	0.0316	0.4433	1.3400e-003	0.1453	8.3000e-004	0.1461	0.0385	7.7000e-004	0.0393		133.3600	133.3600	2.9600e-003		133.4341
Total	**0.0577**	**0.0316**	**0.4433**	**1.3400e-003**	**0.1453**	**8.3000e-004**	**0.1461**	**0.0385**	**7.7000e-004**	**0.0393**		**133.3600**	**133.3600**	**2.9600e-003**		**133.4341**

3.4 Paving - 2022

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.4166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1043**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

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	0.0577	0.0316	0.4433	1.3400e-003	0.1453	8.3000e-004	0.1461	0.0385	7.7000e-004	0.0393		133.3600	133.3600	2.9600e-003		133.4341
Total	**0.0577**	**0.0316**	**0.4433**	**1.3400e-003**	**0.1453**	**8.3000e-004**	**0.1461**	**0.0385**	**7.7000e-004**	**0.0393**		**133.3600**	**133.3600**	**2.9600e-003**		**133.4341**

3.5 Architectural Coating - 2022

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	26.6248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**26.8294**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0399	0.0219	0.3069	9.3000e-004	0.1006	5.8000e-004	0.1012	0.0267	5.3000e-004	0.0272		92.3261	92.3261	2.0500e-003		92.3775
Total	**0.0399**	**0.0219**	**0.3069**	**9.3000e-004**	**0.1006**	**5.8000e-004**	**0.1012**	**0.0267**	**5.3000e-004**	**0.0272**		**92.3261**	**92.3261**	**2.0500e-003**		**92.3775**

3.5 Architectural Coating - 2022

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	26.6248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**26.8294**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0399	0.0219	0.3069	9.3000e-004	0.1006	5.8000e-004	0.1012	0.0267	5.3000e-004	0.0272		92.3261	92.3261	2.0500e-003		92.3775
Total	**0.0399**	**0.0219**	**0.3069**	**9.3000e-004**	**0.1006**	**5.8000e-004**	**0.1012**	**0.0267**	**5.3000e-004**	**0.0272**		**92.3261**	**92.3261**	**2.0500e-003**		**92.3775**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3067	1.4907	12.1828	0.0356	3.5148	0.0229	3.5378	0.9335	0.0212	0.9547		3,554.4063	3,554.4063	0.1036		3,556.9961
Unmitigated	1.3256	1.5596	12.8944	0.0381	3.7753	0.0243	3.7996	1.0027	0.0225	1.0252		3,805.7848	3,805.7848	0.1098		3,808.5294

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	102.90	102.90	102.90	351,412	327,165
Parking Lot	0.00	0.00	0.00		
Strip Mall	762.82	762.82	762.82	1,451,338	1,351,195
Total	865.72	865.72	865.72	1,802,750	1,678,360

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.596746	0.040316	0.203498	0.126167	0.021870	0.000000	0.000609	0.001791	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Strip Mall	0.606414	0.040970	0.206795	0.128211	0.001510	0.001510	0.006620	0.002450	0.000000	0.000000	0.004547	0.000000	0.000965

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	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
NaturalGas Unmitigated	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573

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					
Condo/Townhouse	869.286	9.3700e-003	0.0801	0.0341	5.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003		102.2690	102.2690	1.9600e-003	1.8700e-003	102.8767
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
Strip Mall	104.614	1.1300e-003	0.0103	8.6200e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004		12.3075	12.3075	2.4000e-004	2.3000e-004	12.3806
Total		**0.0105**	**0.0904**	**0.0427**	**5.7000e-004**		**7.2600e-003**	**7.2600e-003**		**7.2600e-003**	**7.2600e-003**		**114.5764**	**114.5764**	**2.2000e-003**	**2.1000e-003**	**115.2573**

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					
Condo/Townhouse	0.869286	9.3700e-003	0.0801	0.0341	5.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003		102.2690	102.2690	1.9600e-003	1.8700e-003	102.8767
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
Strip Mall	0.104614	1.1300e-003	0.0103	8.6200e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004		12.3075	12.3075	2.4000e-004	2.3000e-004	12.3806
Total		**0.0105**	**0.0904**	**0.0427**	**5.7000e-004**		**7.2600e-003**	**7.2600e-003**		**7.2600e-003**	**7.2600e-003**		**114.5764**	**114.5764**	**2.2000e-003**	**2.1000e-003**	**115.2573**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7747	0.2224	1.2471	1.4000e-003		0.0233	0.0233		0.0233	0.0233	0.0000	268.9074	268.9074	7.1300e-003	4.8900e-003	270.5434
Unmitigated	4.4188	0.3038	8.2779	0.0182		1.0758	1.0758		1.0758	1.0758	131.1369	254.0839	385.2207	0.3931	8.9000e-003	397.7004

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	0.0729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6422					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.6685	0.2905	7.1197	0.0182		1.0694	1.0694		1.0694	1.0694	131.1369	252.0000	383.1369	0.3911	8.9000e-003	395.5661
Landscaping	0.0351	0.0134	1.1582	6.0000e-005		6.4000e-003	6.4000e-003		6.4000e-003	6.4000e-003		2.0839	2.0839	2.0200e-003		2.1343
Total	**4.4188**	**0.3038**	**8.2779**	**0.0182**		**1.0758**	**1.0758**		**1.0758**	**1.0758**	**131.1369**	**254.0839**	**385.2207**	**0.3931**	**8.9000e-003**	**397.7004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6422					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0245	0.2090	0.0889	1.3300e-003		0.0169	0.0169		0.0169	0.0169	0.0000	266.8235	266.8235	5.1100e-003	4.8900e-003	268.4091
Landscaping	0.0351	0.0134	1.1582	6.0000e-005		6.4000e-003	6.4000e-003		6.4000e-003	6.4000e-003		2.0839	2.0839	2.0200e-003		2.1343
Total	**0.7747**	**0.2224**	**1.2471**	**1.3900e-003**		**0.0233**	**0.0233**		**0.0233**	**0.0233**	**0.0000**	**268.9074**	**268.9074**	**7.1300e-003**	**4.8900e-003**	**270.5434**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 2 Construction and Operations

(Winter Daily)

Bamiyan Marketplace Ph 2

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	1.59	Acre	1.59	69,042.60	0
Condo/Townhouse	14.00	Dwelling Unit	0.00	14,000.00	40
Strip Mall	17.20	1000sqft	0.39	17,200.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Bamiyan Marketplace Ph 2 - Riverside-South Coast County, Winter

Project Characteristics - SCE Intensity Factor with RPS 2020 Compliance

Land Use - Condos on second floor above retail.

Construction Phase -

Vehicle Trips - TIS Trip Generation Rates

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mixes for each land use.

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	HHD	0.07	2.4500e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDA	0.55	0.61
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LDT2	0.19	0.21
tblFleetMix	LHD1	0.02	0.02
tblFleetMix	LHD1	0.02	1.5100e-003
tblFleetMix	LHD2	4.9700e-003	0.00
tblFleetMix	LHD2	4.9700e-003	1.5100e-003
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MDV	0.12	0.13
tblFleetMix	MHD	0.02	6.0900e-004

tblFleetMix	MHD	0.02	6.6200e-003
tblFleetMix	OBUS	1.3970e-003	0.00
tblFleetMix	SBUS	9.3200e-004	0.00
tblFleetMix	UBUS	1.1600e-003	0.00
tblLandUse	LandUseSquareFeet	69,260.40	69,042.60
tblLandUse	LotAcreage	0.88	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.35
tblVehicleTrips	ST_TR	42.04	44.35
tblVehicleTrips	SU_TR	4.84	7.35
tblVehicleTrips	SU_TR	20.43	44.35
tblVehicleTrips	WD_TR	5.81	7.35
tblVehicleTrips	WD_TR	44.32	44.35

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					
2021	2.0615	15.2296	14.5548	0.0304	5.0037	0.6902	5.6421	2.5493	0.6663	3.1367	0.0000	2,851.8143	2,851.8143	0.4433	0.0000	2,861.8655
2022	26.8687	13.9991	14.2549	0.0302	0.6054	0.5942	1.1996	0.1629	0.5738	0.7367	0.0000	2,832.7788	2,832.7788	0.4139	0.0000	2,842.5433
Maximum	**26.8687**	**15.2296**	**14.5548**	**0.0304**	**5.0037**	**0.6902**	**5.6421**	**2.5493**	**0.6663**	**3.1367**	**0.0000**	**2,851.8143**	**2,851.8143**	**0.4433**	**0.0000**	**2,861.8655**

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					
2021	2.0615	15.2296	14.5548	0.0304	2.3008	0.6902	2.9393	1.1602	0.6663	1.7476	0.0000	2,851.8143	2,851.8143	0.4433	0.0000	2,861.8655
2022	26.8687	13.9991	14.2549	0.0302	0.6054	0.5942	1.1996	0.1629	0.5738	0.7367	0.0000	2,832.7788	2,832.7788	0.4139	0.0000	2,842.5433
Maximum	**26.8687**	**15.2296**	**14.5548**	**0.0304**	**2.3008**	**0.6902**	**2.9393**	**1.1602**	**0.6663**	**1.7476**	**0.0000**	**2,851.8143**	**2,851.8143**	**0.4433**	**0.0000**	**2,861.8655**

	ROG	NOx	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**	**48.19**	**0.00**	**39.51**	**51.22**	**0.00**	**35.86**	**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	4.4188	0.3038	8.2779	0.0182		1.0758	1.0758		1.0758	1.0758	131.1369	254.0839	385.2207	0.3931	8.9000e-003	397.7004
Energy	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
Mobile	1.0540	1.6005	11.0818	0.0344	3.7753	0.0243	3.7997	1.0027	0.0225	1.0252		3,440.0125	3,440.0125	0.1034		3,442.5970
Total	**5.4833**	**1.9947**	**19.4024**	**0.0532**	**3.7753**	**1.1074**	**4.8828**	**1.0027**	**1.1056**	**2.1083**	**131.1369**	**3,808.6728**	**3,939.8097**	**0.4987**	**0.0110**	**3,955.5548**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.7747	0.2224	1.2471	1.4000e-003		0.0233	0.0233		0.0233	0.0233	0.0000	268.9074	268.9074	7.1300e-003	4.8900e-003	270.5434
Energy	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
Mobile	1.0367	1.5287	10.5229	0.0322	3.5148	0.0230	3.5378	0.9335	0.0212	0.9547		3,213.5700	3,213.5700	0.0979		3,216.0162
Total	**1.8220**	**1.8414**	**11.8128**	**0.0341**	**3.5148**	**0.0535**	**3.5684**	**0.9335**	**0.0518**	**0.9853**	**0.0000**	**3,597.0538**	**3,597.0538**	**0.1072**	**6.9900e-003**	**3,601.8169**

	ROG	NOx	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	**66.77**	**7.68**	**39.12**	**35.88**	**6.90**	**95.17**	**26.92**	**6.90**	**95.32**	**53.27**	**100.00**	**5.56**	**8.70**	**78.51**	**36.45**	**8.94**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	11/25/2021	11/30/2021	5	4	
2	Building Construction	Building Construction	12/1/2021	9/6/2022	5	200	
3	Paving	Paving	9/7/2022	9/20/2022	5	10	
4	Architectural Coating	Architectural Coating	9/21/2022	10/4/2022	5	10	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 1.59

Residential Indoor: 28,350; Residential Outdoor: 9,450; Non-Residential Indoor: 25,800; Non-Residential Outdoor: 8,600; Striped Parking Area: 4,143 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	6.00	187	0.41
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	231	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	45.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	9.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2021

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					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869		1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**4.9143**	**0.6379**	**5.5522**	**2.5256**	**0.5869**	**3.1125**		**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

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	0.0372	0.0224	0.2387	7.7000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		76.4155	76.4155	1.7700e-003		76.4596
Total	**0.0372**	**0.0224**	**0.2387**	**7.7000e-004**	**0.0894**	**5.3000e-004**	**0.0900**	**0.0237**	**4.9000e-004**	**0.0242**		**76.4155**	**76.4155**	**1.7700e-003**		**76.4596**

3.2 Grading - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.2114	0.0000	2.2114	1.1365	0.0000	1.1365			0.0000			0.0000
Off-Road	1.2884	14.3307	6.3314	0.0141		0.6379	0.6379		0.5869	0.5869	0.0000	1,365.0648	1,365.0648	0.4415		1,376.1020
Total	**1.2884**	**14.3307**	**6.3314**	**0.0141**	**2.2114**	**0.6379**	**2.8493**	**1.1365**	**0.5869**	**1.7234**	**0.0000**	**1,365.0648**	**1,365.0648**	**0.4415**		**1,376.1020**

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	0.0372	0.0224	0.2387	7.7000e-004	0.0894	5.3000e-004	0.0900	0.0237	4.9000e-004	0.0242		76.4155	76.4155	1.7700e-003		76.4596
Total	**0.0372**	**0.0224**	**0.2387**	**7.7000e-004**	**0.0894**	**5.3000e-004**	**0.0900**	**0.0237**	**4.9000e-004**	**0.0242**		**76.4155**	**76.4155**	**1.7700e-003**		**76.4596**

3.3 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608		2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**		**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

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	0.0397	1.4679	0.3125	3.9900e-003	0.1025	2.9000e-003	0.1054	0.0295	2.7700e-003	0.0323		420.7572	420.7572	0.0349		421.6284
Worker	0.2094	0.1257	1.3429	4.3100e-003	0.5030	2.9600e-003	0.5060	0.1334	2.7300e-003	0.1361		429.8371	429.8371	9.9300e-003		430.0854
Total	**0.2490**	**1.5936**	**1.6554**	**8.3000e-003**	**0.6054**	**5.8600e-003**	**0.6113**	**0.1629**	**5.5000e-003**	**0.1684**		**850.5943**	**850.5943**	**0.0448**		**851.7138**

3.3 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8125	13.6361	12.8994	0.0221		0.6843	0.6843		0.6608	0.6608	0.0000	2,001.2200	2,001.2200	0.3573		2,010.1517
Total	**1.8125**	**13.6361**	**12.8994**	**0.0221**		**0.6843**	**0.6843**		**0.6608**	**0.6608**	**0.0000**	**2,001.2200**	**2,001.2200**	**0.3573**		**2,010.1517**

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	0.0397	1.4679	0.3125	3.9900e-003	0.1025	2.9000e-003	0.1054	0.0295	2.7700e-003	0.0323		420.7572	420.7572	0.0349		421.6284
Worker	0.2094	0.1257	1.3429	4.3100e-003	0.5030	2.9600e-003	0.5060	0.1334	2.7300e-003	0.1361		429.8371	429.8371	9.9300e-003		430.0854
Total	**0.2490**	**1.5936**	**1.6554**	**8.3000e-003**	**0.6054**	**5.8600e-003**	**0.6113**	**0.1629**	**5.5000e-003**	**0.1684**		**850.5943**	**850.5943**	**0.0448**		**851.7138**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689		2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**		**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

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	0.0370	1.3829	0.2917	3.9500e-003	0.1025	2.4400e-003	0.1049	0.0295	2.3400e-003	0.0318		417.0834	417.0834	0.0330		417.9094
Worker	0.1964	0.1131	1.2368	4.1500e-003	0.5030	2.8900e-003	0.5059	0.1334	2.6600e-003	0.1361		414.1525	414.1525	8.9300e-003		414.3758
Total	**0.2335**	**1.4960**	**1.5285**	**8.1000e-003**	**0.6054**	**5.3300e-003**	**0.6108**	**0.1629**	**5.0000e-003**	**0.1679**		**831.2359**	**831.2359**	**0.0420**		**832.2852**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.6487	12.5031	12.7264	0.0221		0.5889	0.5889		0.5689	0.5689	0.0000	2,001.5429	2,001.5429	0.3486		2,010.2581
Total	**1.6487**	**12.5031**	**12.7264**	**0.0221**		**0.5889**	**0.5889**		**0.5689**	**0.5689**	**0.0000**	**2,001.5429**	**2,001.5429**	**0.3486**		**2,010.2581**

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	0.0370	1.3829	0.2917	3.9500e-003	0.1025	2.4400e-003	0.1049	0.0295	2.3400e-003	0.0318		417.0834	417.0834	0.0330		417.9094
Worker	0.1964	0.1131	1.2368	4.1500e-003	0.5030	2.8900e-003	0.5059	0.1334	2.6600e-003	0.1361		414.1525	414.1525	8.9300e-003		414.3758
Total	**0.2335**	**1.4960**	**1.5285**	**8.1000e-003**	**0.6054**	**5.3300e-003**	**0.6108**	**0.1629**	**5.0000e-003**	**0.1679**		**831.2359**	**831.2359**	**0.0420**		**832.2852**

3.4 Paving - 2022

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205		1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.4166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1043**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**		**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

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	0.0567	0.0327	0.3573	1.2000e-003	0.1453	8.3000e-004	0.1461	0.0385	7.7000e-004	0.0393		119.6441	119.6441	2.5800e-003		119.7086
Total	**0.0567**	**0.0327**	**0.3573**	**1.2000e-003**	**0.1453**	**8.3000e-004**	**0.1461**	**0.0385**	**7.7000e-004**	**0.0393**		**119.6441**	**119.6441**	**2.5800e-003**		**119.7086**

3.4 Paving - 2022

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	0.6877	6.7738	8.8060	0.0135		0.3474	0.3474		0.3205	0.3205	0.0000	1,297.3789	1,297.3789	0.4113		1,307.6608
Paving	0.4166					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1043**	**6.7738**	**8.8060**	**0.0135**		**0.3474**	**0.3474**		**0.3205**	**0.3205**	**0.0000**	**1,297.3789**	**1,297.3789**	**0.4113**		**1,307.6608**

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	0.0567	0.0327	0.3573	1.2000e-003	0.1453	8.3000e-004	0.1461	0.0385	7.7000e-004	0.0393		119.6441	119.6441	2.5800e-003		119.7086
Total	**0.0567**	**0.0327**	**0.3573**	**1.2000e-003**	**0.1453**	**8.3000e-004**	**0.1461**	**0.0385**	**7.7000e-004**	**0.0393**		**119.6441**	**119.6441**	**2.5800e-003**		**119.7086**

3.5 Architectural Coating - 2022

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	26.6248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**26.8294**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0393	0.0226	0.2474	8.3000e-004	0.1006	5.8000e-004	0.1012	0.0267	5.3000e-004	0.0272		82.8305	82.8305	1.7900e-003		82.8752
Total	**0.0393**	**0.0226**	**0.2474**	**8.3000e-004**	**0.1006**	**5.8000e-004**	**0.1012**	**0.0267**	**5.3000e-004**	**0.0272**		**82.8305**	**82.8305**	**1.7900e-003**		**82.8752**

3.5 Architectural Coating - 2022

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	26.6248					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**26.8294**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	0.0393	0.0226	0.2474	8.3000e-004	0.1006	5.8000e-004	0.1012	0.0267	5.3000e-004	0.0272		82.8305	82.8305	1.7900e-003		82.8752
Total	**0.0393**	**0.0226**	**0.2474**	**8.3000e-004**	**0.1006**	**5.8000e-004**	**0.1012**	**0.0267**	**5.3000e-004**	**0.0272**		**82.8305**	**82.8305**	**1.7900e-003**		**82.8752**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0367	1.5287	10.5229	0.0322	3.5148	0.0230	3.5378	0.9335	0.0212	0.9547		3,213.5700	3,213.5700	0.0979		3,216.0162
Unmitigated	1.0540	1.6005	11.0818	0.0344	3.7753	0.0243	3.7997	1.0027	0.0225	1.0252		3,440.0125	3,440.0125	0.1034		3,442.5970

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	102.90	102.90	102.90	351,412	327,165
Parking Lot	0.00	0.00	0.00		
Strip Mall	762.82	762.82	762.82	1,451,338	1,351,195
Total	865.72	865.72	865.72	1,802,750	1,678,360

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Strip Mall	16.60	8.40	6.90	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.596746	0.040316	0.203498	0.126167	0.021870	0.000000	0.000609	0.001791	0.001397	0.001160	0.004547	0.000932	0.000965
Parking Lot	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Strip Mall	0.606414	0.040970	0.206795	0.128211	0.001510	0.001510	0.006620	0.002450	0.000000	0.000000	0.004547	0.000000	0.000965

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	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573
NaturalGas Unmitigated	0.0105	0.0904	0.0427	5.7000e-004		7.2600e-003	7.2600e-003		7.2600e-003	7.2600e-003		114.5764	114.5764	2.2000e-003	2.1000e-003	115.2573

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					
Condo/Townhouse	869.286	9.3700e-003	0.0801	0.0341	5.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003		102.2690	102.2690	1.9600e-003	1.8700e-003	102.8767
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
Strip Mall	104.614	1.1300e-003	0.0103	8.6200e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004		12.3075	12.3075	2.4000e-004	2.3000e-004	12.3806
Total		**0.0105**	**0.0904**	**0.0427**	**5.7000e-004**		**7.2600e-003**	**7.2600e-003**		**7.2600e-003**	**7.2600e-003**		**114.5764**	**114.5764**	**2.2000e-003**	**2.1000e-003**	**115.2573**

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					
Condo/Townhouse	0.869286	9.3700e-003	0.0801	0.0341	5.1000e-004		6.4800e-003	6.4800e-003		6.4800e-003	6.4800e-003		102.2690	102.2690	1.9600e-003	1.8700e-003	102.8767
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
Strip Mall	0.104614	1.1300e-003	0.0103	8.6200e-003	6.0000e-005		7.8000e-004	7.8000e-004		7.8000e-004	7.8000e-004		12.3075	12.3075	2.4000e-004	2.3000e-004	12.3806
Total		**0.0105**	**0.0904**	**0.0427**	**5.7000e-004**		**7.2600e-003**	**7.2600e-003**		**7.2600e-003**	**7.2600e-003**		**114.5764**	**114.5764**	**2.2000e-003**	**2.1000e-003**	**115.2573**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7747	0.2224	1.2471	1.4000e-003		0.0233	0.0233		0.0233	0.0233	0.0000	268.9074	268.9074	7.1300e-003	4.8900e-003	270.5434
Unmitigated	4.4188	0.3038	8.2779	0.0182		1.0758	1.0758		1.0758	1.0758	131.1369	254.0839	385.2207	0.3931	8.9000e-003	397.7004

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	0.0729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6422					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.6685	0.2905	7.1197	0.0182		1.0694	1.0694		1.0694	1.0694	131.1369	252.0000	383.1369	0.3911	8.9000e-003	395.5661
Landscaping	0.0351	0.0134	1.1582	6.0000e-005		6.4000e-003	6.4000e-003		6.4000e-003	6.4000e-003		2.0839	2.0839	2.0200e-003		2.1343
Total	**4.4188**	**0.3038**	**8.2779**	**0.0182**		**1.0758**	**1.0758**		**1.0758**	**1.0758**	**131.1369**	**254.0839**	**385.2207**	**0.3931**	**8.9000e-003**	**397.7004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0729					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.6422					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0245	0.2090	0.0889	1.3300e-003		0.0169	0.0169		0.0169	0.0169	0.0000	266.8235	266.8235	5.1100e-003	4.8900e-003	268.4091
Landscaping	0.0351	0.0134	1.1582	6.0000e-005		6.4000e-003	6.4000e-003		6.4000e-003	6.4000e-003		2.0839	2.0839	2.0200e-003		2.1343
Total	**0.7747**	**0.2224**	**1.2471**	**1.3900e-003**		**0.0233**	**0.0233**		**0.0233**	**0.0233**	**0.0000**	**268.9074**	**268.9074**	**7.1300e-003**	**4.8900e-003**	**270.5434**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations

(Summer Daily)

Bamiyan Marketplace Phase 3

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	66.00	Dwelling Unit	3.95	66,000.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE Intensity Factors with RPS compliance in 2020

Land Use - Site Plan

Construction Phase -

Vehicle Trips - Trip generation rate from the project TIS

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mix for residential 2023

Bamiyan Marketplace Phase 3 - Riverside-South Coast County, Summer

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	4.8060e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MHD	0.02	6.0900e-004
tblLandUse	LotAcreage	4.13	3.95
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.33
tblVehicleTrips	SU_TR	4.84	7.33
tblVehicleTrips	WD_TR	5.81	7.33

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					
2022	2.0152	20.8916	18.1078	0.0337	6.7200	0.9418	7.6618	3.4120	0.8665	4.2784	0.0000	3,236.3873	3,236.3873	0.9323	0.0000	3,252.2836
2023	23.1765	14.9497	17.8494	0.0334	0.5814	0.7032	1.2845	0.1552	0.6616	0.8168	0.0000	3,213.5070	3,213.5070	0.6276	0.0000	3,229.1974
Maximum	**23.1765**	**20.8916**	**18.1078**	**0.0337**	**6.7200**	**0.9418**	**7.6618**	**3.4120**	**0.8665**	**4.2784**	**0.0000**	**3,236.3873**	**3,236.3873**	**0.9323**	**0.0000**	**3,252.2836**

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					
2022	2.0152	20.8916	18.1078	0.0337	3.1162	0.9418	4.0580	1.5598	0.8665	2.4263	0.0000	3,236.3873	3,236.3873	0.9323	0.0000	3,252.2836
2023	23.1765	14.9497	17.8494	0.0334	0.5814	0.7032	1.2845	0.1552	0.6616	0.8168	0.0000	3,213.5070	3,213.5070	0.6276	0.0000	3,229.1974
Maximum	**23.1765**	**20.8916**	**18.1078**	**0.0337**	**3.1162**	**0.9418**	**4.0580**	**1.5598**	**0.8665**	**2.4263**	**0.0000**	**3,236.3873**	**3,236.3873**	**0.9323**	**0.0000**	**3,252.2836**

	ROG	NOx	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**	**49.36**	**0.00**	**40.28**	**51.92**	**0.00**	**36.35**	**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	18.8784	1.4322	39.0107	0.0859		5.0718	5.0718		5.0718	5.0718	618.2166	1,197.8045	1,816.0211	1.8531	0.0420	1,874.8519
Energy	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Mobile	0.8010	1.3386	10.2524	0.0332	3.4717	0.0222	3.4938	0.9240	0.0205	0.9445		3,320.8771	3,320.8771	0.0989		3,323.3500
Total	**19.7236**	**3.1484**	**49.4238**	**0.1215**	**3.4717**	**5.1245**	**8.5961**	**0.9240**	**5.1228**	**6.0468**	**618.2166**	**5,000.8066**	**5,619.0232**	**1.9612**	**0.0508**	**5,683.1920**

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	1.6993	1.0481	5.8656	6.5800e-003		0.1098	0.1098		0.1098	0.1098	0.0000	1,267.6868	1,267.6868	0.0335	0.0231	1,275.3975
Energy	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Mobile	0.7840	1.2628	9.6370	0.0309	3.2321	0.0208	3.2529	0.8602	0.0193	0.8795		3,097.4889	3,097.4889	0.0928		3,099.8078
Total	**2.5275**	**2.6885**	**15.6633**	**0.0399**	**3.2321**	**0.1611**	**3.3933**	**0.8602**	**0.1596**	**1.0198**	**0.0000**	**4,847.3007**	**4,847.3007**	**0.1355**	**0.0319**	**4,860.1954**

	ROG	NOx	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	**87.19**	**14.61**	**68.31**	**67.14**	**6.90**	**96.86**	**60.53**	**6.90**	**96.88**	**83.13**	**100.00**	**3.07**	**13.73**	**93.09**	**37.20**	**14.48**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/5/2022	10/14/2022	5	8	
2	Building Construction	Building Construction	10/15/2022	9/1/2023	5	230	
3	Paving	Paving	9/2/2023	9/27/2023	5	18	
4	Architectural Coating	Architectural Coating	9/28/2023	10/23/2023	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 133,650; Residential Outdoor: 44,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	48.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.9486**	**0.9409**	**3.8894**	**1.5154**	**0.8656**	**2.3810**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.0152	0.6112	0.1075	1.8000e-003	0.0448	1.0400e-003	0.0459	0.0129	9.9000e-004	0.0139		189.6476	189.6476	0.0130		189.9716
Worker	0.2129	0.1167	1.6369	4.9400e-003	0.5365	3.0800e-003	0.5396	0.1423	2.8300e-003	0.1451		492.4061	492.4061	0.0110		492.6798
Total	**0.2281**	**0.7278**	**1.7444**	**6.7400e-003**	**0.5814**	**4.1200e-003**	**0.5855**	**0.1552**	**3.8200e-003**	**0.1590**		**682.0537**	**682.0537**	**0.0239**		**682.6514**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.0152	0.6112	0.1075	1.8000e-003	0.0448	1.0400e-003	0.0459	0.0129	9.9000e-004	0.0139		189.6476	189.6476	0.0130		189.9716
Worker	0.2129	0.1167	1.6369	4.9400e-003	0.5365	3.0800e-003	0.5396	0.1423	2.8300e-003	0.1451		492.4061	492.4061	0.0110		492.6798
Total	**0.2281**	**0.7278**	**1.7444**	**6.7400e-003**	**0.5814**	**4.1200e-003**	**0.5855**	**0.1552**	**3.8200e-003**	**0.1590**		**682.0537**	**682.0537**	**0.0239**		**682.6514**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0117	0.4596	0.0948	1.7500e-003	0.0448	4.6000e-004	0.0453	0.0129	4.4000e-004	0.0134		184.6037	184.6037	9.9400e-003		184.8523
Worker	0.1996	0.1052	1.5106	4.7500e-003	0.5365	3.0100e-003	0.5395	0.1423	2.7700e-003	0.1451		473.6934	473.6934	9.8300e-003		473.9390
Total	**0.2113**	**0.5648**	**1.6054**	**6.5000e-003**	**0.5814**	**3.4700e-003**	**0.5848**	**0.1552**	**3.2100e-003**	**0.1584**		**658.2971**	**658.2971**	**0.0198**		**658.7913**

3.3 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0117	0.4596	0.0948	1.7500e-003	0.0448	4.6000e-004	0.0453	0.0129	4.4000e-004	0.0134		184.6037	184.6037	9.9400e-003		184.8523
Worker	0.1996	0.1052	1.5106	4.7500e-003	0.5365	3.0100e-003	0.5395	0.1423	2.7700e-003	0.1451		473.6934	473.6934	9.8300e-003		473.9390
Total	**0.2113**	**0.5648**	**1.6054**	**6.5000e-003**	**0.5814**	**3.4700e-003**	**0.5848**	**0.1552**	**3.2100e-003**	**0.1584**		**658.2971**	**658.2971**	**0.0198**		**658.7913**

3.4 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0832	0.0438	0.6294	1.9800e-003	0.2236	1.2500e-003	0.2248	0.0593	1.1500e-003	0.0604		197.3722	197.3722	4.0900e-003		197.4746
Total	**0.0832**	**0.0438**	**0.6294**	**1.9800e-003**	**0.2236**	**1.2500e-003**	**0.2248**	**0.0593**	**1.1500e-003**	**0.0604**		**197.3722**	**197.3722**	**4.0900e-003**		**197.4746**

3.4 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0832	0.0438	0.6294	1.9800e-003	0.2236	1.2500e-003	0.2248	0.0593	1.1500e-003	0.0604		197.3722	197.3722	4.0900e-003		197.4746
Total	**0.0832**	**0.0438**	**0.6294**	**1.9800e-003**	**0.2236**	**1.2500e-003**	**0.2248**	**0.0593**	**1.1500e-003**	**0.0604**		**197.3722**	**197.3722**	**4.0900e-003**		**197.4746**

3.5 Architectural Coating - 2023

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	22.9433					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**23.1349**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0416	0.0219	0.3147	9.9000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		98.6861	98.6861	2.0500e-003		98.7373
Total	**0.0416**	**0.0219**	**0.3147**	**9.9000e-004**	**0.1118**	**6.3000e-004**	**0.1124**	**0.0296**	**5.8000e-004**	**0.0302**		**98.6861**	**98.6861**	**2.0500e-003**		**98.7373**

3.5 Architectural Coating - 2023

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	22.9433					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**23.1349**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0416	0.0219	0.3147	9.9000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		98.6861	98.6861	2.0500e-003		98.7373
Total	**0.0416**	**0.0219**	**0.3147**	**9.9000e-004**	**0.1118**	**6.3000e-004**	**0.1124**	**0.0296**	**5.8000e-004**	**0.0302**		**98.6861**	**98.6861**	**2.0500e-003**		**98.7373**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	0.7840	1.2628	9.6370	0.0309	3.2321	0.0208	3.2529	0.8602	0.0193	0.8795		3,097.4889	3,097.4889	0.0928		3,099.8078
Unmitigated	0.8010	1.3386	10.2524	0.0332	3.4717	0.0222	3.4938	0.9240	0.0205	0.9445		3,320.8771	3,320.8771	0.0989		3,323.3500

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	483.78	483.78	483.78	1,652,150	1,538,151
Total	483.78	483.78	483.78	1,652,150	1,538,151

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.599817	0.039634	0.204347	0.123051	0.021870	0.000000	0.000609	0.001791	0.001409	0.001147	0.004508	0.000918	0.000898

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	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
NaturalGas Unmitigated	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901

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					
Condo/Townhouse	4098.06	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Total		**0.0442**	**0.3777**	**0.1607**	**2.4100e-003**		**0.0305**	**0.0305**		**0.0305**	**0.0305**		**482.1251**	**482.1251**	**9.2400e-003**	**8.8400e-003**	**484.9901**

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					
Condo/Townhouse	4.09806	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Total		**0.0442**	**0.3777**	**0.1607**	**2.4100e-003**		**0.0305**	**0.0305**		**0.0305**	**0.0305**		**482.1251**	**482.1251**	**9.2400e-003**	**8.8400e-003**	**484.9901**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6993	1.0481	5.8656	6.5800e-003		0.1098	0.1098		0.1098	0.1098	0.0000	1,267.6868	1,267.6868	0.0335	0.0231	1,275.3975
Unmitigated	18.8784	1.4322	39.0107	0.0859		5.0718	5.0718		5.0718	5.0718	618.2166	1,197.8045	1,816.0211	1.8531	0.0420	1,874.8519

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	0.1131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	17.2944	1.3694	33.5644	0.0856		5.0416	5.0416		5.0416	5.0416	618.2166	1,188.0000	1,806.2166	1.8436	0.0420	1,864.8118
Landscaping	0.1641	0.0628	5.4463	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8045	9.8045	9.4300e-003		10.0402
Total	**18.8784**	**1.4322**	**39.0107**	**0.0859**		**5.0718**	**5.0718**		**5.0718**	**5.0718**	**618.2166**	**1,197.8045**	**1,816.0211**	**1.8531**	**0.0420**	**1,874.8519**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1153	0.9853	0.4193	6.2900e-003		0.0797	0.0797		0.0797	0.0797	0.0000	1,257.8824	1,257.8824	0.0241	0.0231	1,265.3573
Landscaping	0.1641	0.0628	5.4463	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8045	9.8045	9.4300e-003		10.0402
Total	**1.6993**	**1.0481**	**5.8656**	**6.5800e-003**		**0.1098**	**0.1098**		**0.1098**	**0.1098**	**0.0000**	**1,267.6868**	**1,267.6868**	**0.0335**	**0.0231**	**1,275.3975**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

CalEEMod Output

Phase 3 Construction and Operations

(Winter Daily)

Bamiyan Marketplace Phase 3

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Condo/Townhouse	66.00	Dwelling Unit	3.95	66,000.00	189

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	578.23	**CH4 Intensity (lb/MWhr)**	0.027	**N2O Intensity (lb/MWhr)**	0.005

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCE Intensity Factors with RPS compliance in 2020

Land Use - Site Plan

Construction Phase -

Vehicle Trips - Trip generation rate from the project TIS

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

Waste Mitigation -

Fleet Mix - Project specific truck fleet mix for residential 2023

Table Name	Column Name	Default Value	New Value
tblFleetMix	HHD	0.07	1.7910e-003
tblFleetMix	LDA	0.55	0.60
tblFleetMix	LDT1	0.04	0.04
tblFleetMix	LDT2	0.19	0.20
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	4.8060e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MHD	0.02	6.0900e-004
tblLandUse	LotAcreage	4.13	3.95
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.027
tblProjectCharacteristics	CO2IntensityFactor	702.44	578.23
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.005
tblVehicleTrips	HO_TTP	40.60	41.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblVehicleTrips	ST_TR	5.67	7.33
tblVehicleTrips	SU_TR	4.84	7.33
tblVehicleTrips	WD_TR	5.81	7.33

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					
2022	2.0141	20.8928	17.8103	0.0331	6.7200	0.9418	7.6618	3.4120	0.8665	4.2784	0.0000	3,178.5703	3,178.5703	0.9319	0.0000	3,194.4684
2023	23.1760	14.9469	17.5692	0.0329	0.5814	0.7032	1.2846	0.1552	0.6617	0.8168	0.0000	3,157.9395	3,157.9395	0.6274	0.0000	3,173.6254
Maximum	**23.1760**	**20.8928**	**17.8103**	**0.0331**	**6.7200**	**0.9418**	**7.6618**	**3.4120**	**0.8665**	**4.2784**	**0.0000**	**3,178.5703**	**3,178.5703**	**0.9319**	**0.0000**	**3,194.4684**

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					
2022	2.0141	20.8928	17.8103	0.0331	3.1162	0.9418	4.0580	1.5598	0.8665	2.4263	0.0000	3,178.5703	3,178.5703	0.9319	0.0000	3,194.4684
2023	23.1760	14.9469	17.5692	0.0329	0.5814	0.7032	1.2846	0.1552	0.6617	0.8168	0.0000	3,157.9395	3,157.9395	0.6274	0.0000	3,173.6253
Maximum	**23.1760**	**20.8928**	**17.8103**	**0.0331**	**3.1162**	**0.9418**	**4.0580**	**1.5598**	**0.8665**	**2.4263**	**0.0000**	**3,178.5703**	**3,178.5703**	**0.9319**	**0.0000**	**3,194.4684**

	ROG	NOx	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**	**49.36**	**0.00**	**40.28**	**51.92**	**0.00**	**36.35**	**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	18.8784	1.4322	39.0107	0.0859		5.0718	5.0718		5.0718	5.0718	618.2166	1,197.8045	1,816.0211	1.8531	0.0420	1,874.8519
Energy	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Mobile	0.6530	1.3891	8.5862	0.0300	3.4717	0.0222	3.4938	0.9240	0.0205	0.9445		3,005.5857	3,005.5857	0.0925		3,007.8988
Total	**19.5756**	**3.1989**	**47.7577**	**0.1183**	**3.4717**	**5.1245**	**8.5961**	**0.9240**	**5.1228**	**6.0468**	**618.2166**	**4,685.5152**	**5,303.7319**	**1.9548**	**0.0508**	**5,367.7408**

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	1.6993	1.0481	5.8656	6.5800e-003		0.1098	0.1098		0.1098	0.1098	0.0000	1,267.6868	1,267.6868	0.0335	0.0231	1,275.3975
Energy	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Mobile	0.6373	1.3098	8.0999	0.0280	3.2321	0.0208	3.2529	0.8602	0.0193	0.8795		2,803.8282	2,803.8282	0.0869		2,806.0007
Total	**2.3808**	**2.7356**	**14.1262**	**0.0370**	**3.2321**	**0.1611**	**3.3933**	**0.8602**	**0.1596**	**1.0198**	**0.0000**	**4,553.6400**	**4,553.6400**	**0.1297**	**0.0319**	**4,566.3883**

	ROG	NOx	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	**87.84**	**14.48**	**70.42**	**68.76**	**6.90**	**96.86**	**60.53**	**6.90**	**96.88**	**83.13**	**100.00**	**2.81**	**14.14**	**93.37**	**37.20**	**14.93**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/5/2022	10/14/2022	5	8	
2	Building Construction	Building Construction	10/15/2022	9/1/2023	5	230	
3	Paving	Paving	9/2/2023	9/27/2023	5	18	
4	Architectural Coating	Architectural Coating	9/28/2023	10/23/2023	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0

Residential Indoor: 133,650; Residential Outdoor: 44,550; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

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
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	48.00	7.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**6.5523**	**0.9409**	**7.4932**	**3.3675**	**0.8656**	**4.2331**		**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

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	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.0655**	**0.0377**	**0.4123**	**1.3800e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**138.0508**	**138.0508**	**2.9800e-003**		**138.1253**

3.2 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	**1.9486**	**20.8551**	**15.2727**	**0.0297**	**2.9486**	**0.9409**	**3.8894**	**1.5154**	**0.8656**	**2.3810**	**0.0000**	**2,872.0464**	**2,872.0464**	**0.9289**		**2,895.2684**

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	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.0655**	**0.0377**	**0.4123**	**1.3800e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**138.0508**	**138.0508**	**2.9800e-003**		**138.1253**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.0162	0.6050	0.1276	1.7300e-003	0.0448	1.0700e-003	0.0459	0.0129	1.0200e-003	0.0139		182.4740	182.4740	0.0145		182.8354
Worker	0.2095	0.1206	1.3193	4.4300e-003	0.5365	3.0800e-003	0.5396	0.1423	2.8300e-003	0.1451		441.7627	441.7627	9.5300e-003		442.0009
Total	**0.2257**	**0.7256**	**1.4469**	**6.1600e-003**	**0.5814**	**4.1500e-003**	**0.5855**	**0.1552**	**3.8500e-003**	**0.1591**		**624.2367**	**624.2367**	**0.0240**		**624.8362**

3.3 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

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	0.0162	0.6050	0.1276	1.7300e-003	0.0448	1.0700e-003	0.0459	0.0129	1.0200e-003	0.0139		182.4740	182.4740	0.0145		182.8354
Worker	0.2095	0.1206	1.3193	4.4300e-003	0.5365	3.0800e-003	0.5396	0.1423	2.8300e-003	0.1451		441.7627	441.7627	9.5300e-003		442.0009
Total	**0.2257**	**0.7256**	**1.4469**	**6.1600e-003**	**0.5814**	**4.1500e-003**	**0.5855**	**0.1552**	**3.8500e-003**	**0.1591**		**624.2367**	**624.2367**	**0.0240**		**624.8362**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584		2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**		**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0124	0.4533	0.1094	1.6800e-003	0.0448	4.8000e-004	0.0453	0.0129	4.6000e-004	0.0134		177.7318	177.7318	0.0110		178.0074
Worker	0.1971	0.1087	1.2157	4.2600e-003	0.5365	3.0100e-003	0.5395	0.1423	2.7700e-003	0.1451		424.9978	424.9978	8.5600e-003		425.2119
Total	**0.2094**	**0.5620**	**1.3252**	**5.9400e-003**	**0.5814**	**3.4900e-003**	**0.5848**	**0.1552**	**3.2300e-003**	**0.1584**		**602.7296**	**602.7296**	**0.0196**		**603.2193**

3.3 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5728	14.3849	16.2440	0.0269		0.6997	0.6997		0.6584	0.6584	0.0000	2,555.2099	2,555.2099	0.6079		2,570.4061
Total	**1.5728**	**14.3849**	**16.2440**	**0.0269**		**0.6997**	**0.6997**		**0.6584**	**0.6584**	**0.0000**	**2,555.2099**	**2,555.2099**	**0.6079**		**2,570.4061**

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	0.0124	0.4533	0.1094	1.6800e-003	0.0448	4.8000e-004	0.0453	0.0129	4.6000e-004	0.0134		177.7318	177.7318	0.0110		178.0074
Worker	0.1971	0.1087	1.2157	4.2600e-003	0.5365	3.0100e-003	0.5395	0.1423	2.7700e-003	0.1451		424.9978	424.9978	8.5600e-003		425.2119
Total	**0.2094**	**0.5620**	**1.3252**	**5.9400e-003**	**0.5814**	**3.4900e-003**	**0.5848**	**0.1552**	**3.2300e-003**	**0.1584**		**602.7296**	**602.7296**	**0.0196**		**603.2193**

3.4 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025		1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**		**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0821	0.0453	0.5066	1.7800e-003	0.2236	1.2500e-003	0.2248	0.0593	1.1500e-003	0.0604		177.0824	177.0824	3.5700e-003		177.1716
Total	**0.0821**	**0.0453**	**0.5066**	**1.7800e-003**	**0.2236**	**1.2500e-003**	**0.2248**	**0.0593**	**1.1500e-003**	**0.0604**		**177.0824**	**177.0824**	**3.5700e-003**		**177.1716**

3.4 Paving - 2023

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	0.9181	8.7903	12.1905	0.0189		0.4357	0.4357		0.4025	0.4025	0.0000	1,805.4304	1,805.4304	0.5673		1,819.6122
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9181**	**8.7903**	**12.1905**	**0.0189**		**0.4357**	**0.4357**		**0.4025**	**0.4025**	**0.0000**	**1,805.4304**	**1,805.4304**	**0.5673**		**1,819.6122**

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	0.0821	0.0453	0.5066	1.7800e-003	0.2236	1.2500e-003	0.2248	0.0593	1.1500e-003	0.0604		177.0824	177.0824	3.5700e-003		177.1716
Total	**0.0821**	**0.0453**	**0.5066**	**1.7800e-003**	**0.2236**	**1.2500e-003**	**0.2248**	**0.0593**	**1.1500e-003**	**0.0604**		**177.0824**	**177.0824**	**3.5700e-003**		**177.1716**

3.5 Architectural Coating - 2023

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	22.9433					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	**23.1349**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**		**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0411	0.0227	0.2533	8.9000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		88.5412	88.5412	1.7800e-003		88.5858
Total	**0.0411**	**0.0227**	**0.2533**	**8.9000e-004**	**0.1118**	**6.3000e-004**	**0.1124**	**0.0296**	**5.8000e-004**	**0.0302**		**88.5412**	**88.5412**	**1.7800e-003**		**88.5858**

3.5 Architectural Coating - 2023

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	22.9433					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	**23.1349**	**1.3030**	**1.8111**	**2.9700e-003**		**0.0708**	**0.0708**		**0.0708**	**0.0708**	**0.0000**	**281.4481**	**281.4481**	**0.0168**		**281.8690**

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	0.0411	0.0227	0.2533	8.9000e-004	0.1118	6.3000e-004	0.1124	0.0296	5.8000e-004	0.0302		88.5412	88.5412	1.7800e-003		88.5858
Total	**0.0411**	**0.0227**	**0.2533**	**8.9000e-004**	**0.1118**	**6.3000e-004**	**0.1124**	**0.0296**	**5.8000e-004**	**0.0302**		**88.5412**	**88.5412**	**1.7800e-003**		**88.5858**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Diversity

Improve Destination Accessibility

Improve Pedestrian Network

	ROG	NOx	CO	SO2	Fugitive 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	0.6373	1.3098	8.0999	0.0280	3.2321	0.0208	3.2529	0.8602	0.0193	0.8795		2,803.8282	2,803.8282	0.0869		2,806.0007
Unmitigated	0.6530	1.3891	8.5862	0.0300	3.4717	0.0222	3.4938	0.9240	0.0205	0.9445		3,005.5857	3,005.5857	0.0925		3,007.8988

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	483.78	483.78	483.78	1,652,150	1,538,151
Total	483.78	483.78	483.78	1,652,150	1,538,151

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
Condo/Townhouse	14.70	5.90	8.70	40.00	19.00	41.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.599817	0.039634	0.204347	0.123051	0.021870	0.000000	0.000609	0.001791	0.001409	0.001147	0.004508	0.000918	0.000898

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	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
NaturalGas Unmitigated	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901

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					
Condo/Townhouse	4098.06	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Total		**0.0442**	**0.3777**	**0.1607**	**2.4100e-003**		**0.0305**	**0.0305**		**0.0305**	**0.0305**		**482.1251**	**482.1251**	**9.2400e-003**	**8.8400e-003**	**484.9901**

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					
Condo/Townhouse	4.09806	0.0442	0.3777	0.1607	2.4100e-003		0.0305	0.0305		0.0305	0.0305		482.1251	482.1251	9.2400e-003	8.8400e-003	484.9901
Total		**0.0442**	**0.3777**	**0.1607**	**2.4100e-003**		**0.0305**	**0.0305**		**0.0305**	**0.0305**		**482.1251**	**482.1251**	**9.2400e-003**	**8.8400e-003**	**484.9901**

6.0 Area Detail

6.1 Mitigation Measures Area

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6993	1.0481	5.8656	6.5800e-003		0.1098	0.1098		0.1098	0.1098	0.0000	1,267.6868	1,267.6868	0.0335	0.0231	1,275.3975
Unmitigated	18.8784	1.4322	39.0107	0.0859		5.0718	5.0718		5.0718	5.0718	618.2166	1,197.8045	1,816.0211	1.8531	0.0420	1,874.8519

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	0.1131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	17.2944	1.3694	33.5644	0.0856		5.0416	5.0416		5.0416	5.0416	618.2166	1,188.0000	1,806.2166	1.8436	0.0420	1,864.8118
Landscaping	0.1641	0.0628	5.4463	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8045	9.8045	9.4300e-003		10.0402
Total	**18.8784**	**1.4322**	**39.0107**	**0.0859**		**5.0718**	**5.0718**		**5.0718**	**5.0718**	**618.2166**	**1,197.8045**	**1,816.0211**	**1.8531**	**0.0420**	**1,874.8519**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1131					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3068					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1153	0.9853	0.4193	6.2900e-003		0.0797	0.0797		0.0797	0.0797	0.0000	1,257.8824	1,257.8824	0.0241	0.0231	1,265.3573
Landscaping	0.1641	0.0628	5.4463	2.9000e-004		0.0301	0.0301		0.0301	0.0301		9.8045	9.8045	9.4300e-003		10.0402
Total	**1.6993**	**1.0481**	**5.8656**	**6.5800e-003**		**0.1098**	**0.1098**		**0.1098**	**0.1098**	**0.0000**	**1,267.6868**	**1,267.6868**	**0.0335**	**0.0231**	**1,275.3975**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

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Appendix B:
South Coast Air Quality Management District Amicus Brief on Friant Ranch Supreme Court Decision

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IN THE SUPREME COURT OF C ALIFORNIA

SIERRA CLUB, REVIVE THE SAN JOAQUIN, and
LEAGUE OF WOMEN VOTERS OF FRESNO,

Plaintiffs and Appellants,

v.

COUNTY OF FRESNO,

Defendant and Respondent,

and,

FRIANT RANCH, L.P.,

Real Party in Interest and Respondent.

After a Published Decision by the Court of Appeal, filed May 27, 2014
Fifth Appellate District Case No. F066798

Appeal from the Superior Court of California, County of Fresno
Case No. 11CECG00726
Honorable Rosendo A. Pena, Jr.

APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*

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TO THE HONORABLE CHIEF JUSTICE AND JUSTICES OF THE SUPREME COURT:

APPLICATION FOR LEAVE TO FILE *AMICUS CURIAE* BRIEF

Pursuant to Rule 8.520(f) of the California Rules of Court, the South Coast Air Quality Management District (SCAQMD) respectfully requests leave to file the attached *amicus curiae* brief. Because SCAQMD's position differs from that of either party, we request leave to submit this amicus brief in support of neither party.

HOW THIS BRIEF WILL ASSIST THE COURT

SCAQMD's proposed amicus brief takes a position on two of the issues in this case. In both instances, its position differs from that of either party. The issues are:

1) Does the California Environmental Quality Act (CEQA) require an environmental impact report (EIR) to correlate a project's air pollution emissions with specific levels of health impacts?
2) What is the proper standard of review for determining whether an EIR provides sufficient information on the health impacts caused by a project's emission of air pollutants?

This brief will assist the Court by discussing the practical realities of correlating identified air quality impacts with specific health outcomes. In short, CEQA requires agencies to provide detailed information about a project's air quality impacts that is sufficient for the public and decisionmakers to adequately evaluate the project and meaningfully understand its impacts. However, the level of analysis is governed by a rule of reason; CEQA only requires agencies to conduct analysis if it is reasonably feasible to do so.

With regard to health-related air quality impacts, an analysis that correlates a project's air pollution emissions with specific levels of health impacts will be feasible in some cases but not others. Whether it is feasible depends on a variety of factors, including the nature of the project and the nature of the analysis under consideration. The feasibility of analysis may also change over time as air districts and others develop new tools for measuring projects' air quality related health impacts. Because SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, it is uniquely situated to express an opinion on the extent to which the Court should hold that CEQA requires lead agencies to correlate air quality impacts with specific health outcomes.

SCAQMD can also offer a unique perspective on the question of the appropriate standard of review. SCAQMD submits that the proper standard of review for determining whether an EIR is sufficient as an informational document is more nuanced than argued by either party. In our view, this is a mixed question of fact and law. It includes determining whether additional analysis is feasible, which is primarily a factual question that should be reviewed under the substantial evidence standard. However, it also involves determining whether the omission of a particular analysis renders an EIR insufficient to serve CEQA's purpose as a meaningful, informational document. If a lead agency has not determined that a requested analysis is infeasible, it is the court's role to determine whether the EIR nevertheless meets CEQA's purposes, and courts should not defer to the lead agency's conclusions regarding the legal sufficiency of an EIR's analysis. The ultimate question of whether an EIR's analysis is "sufficient" to serve CEQA's informational purposes is predominately a question of law that courts should review de novo.

This brief will explain the rationale for these arguments and may assist the Court in reaching a conclusion that accords proper respect to a lead agency's factual conclusions while maintaining judicial authority over the ultimate question of what level of analysis CEQA requires.

STATEMENT OF INTEREST OF *AMICUS CURIAE*

The SCAQMD is the regional agency primarily responsible for air pollution control in the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of the Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410; Cal. Code Regs., tit. 17, § 60104.) The SCAQMD participates in the CEQA process in several ways. Sometimes it acts as a lead agency that prepares CEQA documents for projects. Other times it acts as a responsible agency when it has permit authority over some part of a project that is undergoing CEQA review by a different lead agency. Finally, SCAQMD also acts as a commenting agency for CEQA documents that it receives because it is a public agency with jurisdiction by law over natural resources affected by the project.

In all of these capacities, SCAQMD will be affected by the decision in this case. SCAQMD sometimes submits comments requesting that a lead agency perform an additional type of air quality or health impacts analysis. On the other hand, SCAQMD sometimes determines that a particular type of health impact analysis is not feasible or would not produce reliable and informative results. Thus, SCAQMD will be affected by the Court's resolution of the extent to which CEQA requires EIRs to correlate emissions and health impacts, and its resolution of the proper standard of review.

CERTIFICATION REGARDING AUTHORSHIP AND FUNDING

No party or counsel in the pending case authored the proposed amicus curiae brief in whole or in part, or made any monetary contribution intended to fund the preparation or submission of the brief. No person or entity other than the proposed *Amicus Curiae* made any monetary contribution intended to fund the preparation or submission of the brief.

Respectfully submitted,

DATED: April 3, 2015

SOUTH COAST AIR QUALITY
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BRIEF OF AMICUS CURIAE

SUMMARY OF ARGUMENT

The South Coast Air Quality Management District (SCAQMD) submits that this Court should not try to establish a hard-and-fast rule concerning whether lead agencies are required to correlate emissions of air pollutants with specific health consequences in their environmental impact reports (EIR). The level of detail required in EIRs is governed by a few, core CEQA (California Environmental Quality Act) principles. As this Court has stated, "[a]n EIR must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Laurel Heights Improvement Assn. v. Regents of the Univ of Cal.* (1988) 47 Cal.3d 376, 405 ["*Laurel Heights I*"]) Accordingly, "an agency must use its best efforts to find out and disclose all that it reasonably can." (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 428 (quoting CEQA Guidelines § 15144)[1].). However, "[a]nalysis of environmental effects need not be exhaustive, but will be judged in light of what is reasonably feasible." (*Association of Irritated Residents v. County of Madera* (2003) 107 Cal.App.4th 1383, 1390; CEQA Guidelines §§ 15151, 15204(a).)

With regard to analysis of air quality related health impacts, EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions). In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. In other cases, due to the magnitude

[1] The CEQA Guidelines are found at Cal. Code Regs., tit. 14 §§ 15000, *et seq*.

or nature of the pollution emissions, as well as the specificity of the project involved, it may be feasible to quantify health impacts. Or there may be a less exacting, but still meaningful analysis of health impacts that can feasibly be performed. In these instances, agencies should disclose those impacts.

SCAQMD also submits that whether or not an EIR complies with CEQA's informational mandates by providing sufficient, feasible analysis is a mixed question of fact and law. Pertinent here, the question of whether an EIR's discussion of health impacts from air pollution is sufficient to allow the public to understand and consider meaningfully the issues involves two inquiries: (1) Is it feasible to provide the information or analysis that a commenter is requesting or a petitioner is arguing should be required?; and (2) Even if it is feasible, is the agency relying on other policy or legal considerations to justify not preparing the requested analysis? The first question of whether an analysis is feasible is primarily a question of fact that should be judged by the substantial evidence standard. The second inquiry involves evaluating CEQA's information disclosure purposes against the asserted reasons to not perform the requested analysis. For example, an agency might believe that its EIR meets CEQA's informational disclosure standards even without a particular analysis, and therefore choose not to conduct that analysis. SCAQMD submits that this is more of a legal question, which should be reviewed de novo as a question of law.

ARGUMENT

I. RELEVANT FACTUAL AND LEGAL FRAMEWORK.

A. Air Quality Regulatory Background

The South Coast Air Quality Management District (SCAQMD) is one of the local and regional air pollution control districts and air quality

management districts in California. The SCAQMD is the regional air pollution agency for the South Coast Air Basin, which consists of all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. (Health & Saf. Code § 40410, 17 Cal. Code Reg. § 60104.) The SCAQMD also includes the Coachella Valley in Riverside County (Palm Springs area to the Salton Sea). (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "chapter 7" hyperlink; pp 7-1, 7-3 (last visited Apr. 1, 2015).) The SCAQMD's jurisdiction includes over 16 million residents and has the worst or nearly the worst air pollution levels in the country for ozone and fine particulate matter. (SCAQMD, *Final 2012 AQMP (Feb. 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Executive Summary" hyperlink p. ES-1 (last visited Apr. 1, 2015).)

Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. (Health & Saf. Code § 40000.) The California Air Resources Board (CARB), part of the California Environmental Protection Agency, is primarily responsible for controlling pollution from motor vehicles. (*Id.*) The air districts must adopt rules to achieve and maintain the state and federal ambient air quality standards within their jurisdictions. (Health & Saf. Code § 40001.)

The federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (EPA) to identify pollutants that are widely distributed and pose a threat to human health, developing a so-called "criteria" document. (42 U.S.C. § 7408; CAA § 108.) These pollutants are frequently called "criteria pollutants." EPA must then establish "national ambient air quality standards" at levels "requisite to protect public health",

allowing "an adequate margin of safety." (42 U.S.C. § 7409; CAA § 109.) EPA has set standards for six identified pollutants: ozone, nitrogen dioxide, sulfur dioxide, carbon monoxide, particulate matter (PM), and lead. (U.S. EPA, National Ambient Air Quality Standards (NAAQS), http://www.epa.gov/air/criteria.html (last updated Oct. 21, 2014).)[2]

Under the Clean Air Act, EPA sets emission standards for motor vehicles and "nonroad engines" (mobile farm and construction equipment, marine vessels, locomotives, aircraft, etc.). (42 U.S.C. §§ 7521, 7547; CAA §§ 202, 213.) California is the only state allowed to establish emission standards for motor vehicles and most nonroad sources; however, it may only do so with EPA's approval. (42 U.S.C. §§ 7543(b), 7543(e); CAA §§ 209(b), 209(c).) Sources such as manufacturing facilities, power plants and refineries that are not mobile are often referred to as "stationary sources." The Clean Air Act charges state and local agencies with the primary responsibility to attain the national ambient air quality standards. (42 U.S.C. § 7401(a)(3); CAA § 101(a)(3).) Each state must adopt and implement a plan including enforceable measures to achieve and maintain the national ambient air quality standards. (42 U.S.C. § 7410; CAA § 110.) The SCAQMD and CARB jointly prepare portion of the plan for the South Coast Air Basin and submit it for approval by EPA. (Health & Saf. Code §§ 40460, et seq.)

The Clean Air Act also requires state and local agencies to adopt a permit program requiring, among other things, that new or modified "major" stationary sources use technology to achieve the "lowest achievable emission rate," and to control minor stationary sources as

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[2] Particulate matter (PM) is further divided into two categories: fine particulate or $PM_{2.5}$ (particles with a diameter of less than or equal to 2.5 microns) and coarse particulate (PM_{10}) (particles with a diameter of 10 microns or less). (U.S. EPA, Particulate Matter (PM), http://www.epa.gov/airquality/particlepollution/ (last visited Apr. 1, 2015).)

needed to help attain the standards. (42 U.S.C. §§ 7502(c)(5), 7503(a)(2), 7410(a)(2)(C); CAA §§ 172(c)(5), 173(a)(2), 110(a)(2)(C).) The air districts implement these permit programs in California. (Health & Saf. Code §§ 42300, et seq.)

The Clean Air Act also sets out a regulatory structure for over 100 so-called "hazardous air pollutants" calling for EPA to establish "maximum achievable control technology" (MACT) for sources of these pollutants. (42 U.S.C. § 7412(d)(2); CAA § 112(d)(2).) California refers to these pollutants as "toxic air contaminants" (TACs) which are subject to two state-required programs. The first program requires "air toxics control measures" for specific categories of sources. (Health & Saf. Code § 39666.) The other program requires larger stationary sources and sources identified by air districts to prepare "health risk assessments" for impacts of toxic air contaminants. (Health & Saf. Code §§ 44320(b), 44322, 44360.) If the health risk exceeds levels identified by the district as "significant," the facility must implement a "risk reduction plan" to bring its risk levels below "significant" levels. Air districts may adopt additional more stringent requirements than those required by state law, including requirements for toxic air contaminants. (Health & Saf. Code § 41508; *Western Oil & Gas Assn. v. Monterey Bay Unified APCD* (1989) 49 Cal.3d 408, 414.) For example, SCAQMD has adopted a rule requiring new or modified sources to keep their risks below specified levels and use best available control technology (BACT) for toxics. (SCAQMD, *Rule 1401-New Source Review of Toxic Air Contaminants*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiv; then follow "Rule 1401" hyperlink (last visited Apr. 1, 2015).)

B. The SCAQMD's Role Under CEQA

The California Environmental Quality Act (CEQA) requires public agencies to perform an environmental review and appropriate analysis for projects that they implement or approve. (Pub. Resources Code § 21080(a).) The agency with primary approval authority for a particular project is generally the "lead agency" that prepares the appropriate CEQA document. (CEQA Guidelines §§ 15050, 15051.) Other agencies having a subsequent approval authority over all or part of a project are called "responsible" agencies that must determine whether the CEQA document is adequate for their use. (CEQA Guidelines §§ 15096(c), 15381.) Lead agencies must also consult with and circulate their environmental impact reports to "trustee agencies" and agencies "with jurisdiction by law" including "authority over resources which may be affected by the project." (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines §§ 15086(a)(3), 15073(c).) The SCAQMD has a role in all these aspects of CEQA.

Fulfilling its responsibilities to implement its air quality plan and adopt rules to attain the national ambient air quality standards, SCAQMD adopts a dozen or more rules each year to require pollution reductions from a wide variety of sources. The SCAQMD staff evaluates each rule for any adverse environmental impact and prepares the appropriate CEQA document. Although most rules reduce air emissions, they may have secondary environmental impacts such as use of water or energy or disposal of waste—e.g., spent catalyst from control equipment.[3]

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[3] The SCAQMD's CEQA program for its rules is a "Certified Regulatory Program" under which it prepares a "functionally equivalent" document in lieu of a negative declaration or EIR. (Pub. Resources Code § 21080.5, CEQA Guidelines § 15251(l).)

The SCAQMD also approves a large number of permits every year to construct new, modified, or replacement facilities that emit regulated air pollutants. The majority of these air pollutant sources have already been included in an earlier CEQA evaluation for a larger project, are currently being evaluated by a local government as lead agency, or qualify for an exemption. However, the SCAQMD sometimes acts as lead agency for major projects where the local government does not have a discretionary approval. In such cases, SCAQMD prepares and certifies a negative declaration or environmental impact report (EIR) as appropriate.[4] SCAQMD evaluates perhaps a dozen such permit projects under CEQA each year. SCAQMD is often also a "responsible agency" for many projects since it must issue a permit for part of the projects (e.g., a boiler used to provide heat in a commercial building). For permit projects evaluated by another lead agency under CEQA, SCAQMD has the right to determine that the CEQA document is inadequate for its purposes as a responsible agency, but it may not do so because its permit program already requires all permitted sources to use the best available air pollution control technology. (SCAQMD, *Rule 1303(a)(1) – Requirements*, http://www.aqmd.gov/home/regulations/rules/scaqmd-rule-book/regulation-xiii; then follow "Rule 1303" hyperlink (last visited Apr. 1, 2015).)

Finally, SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality—a natural resource affected by the project. (Pub. Resources Code §§ 21104(a), 21153; CEQA Guidelines § 15366(a)(3).) The SCAQMD staff provides comments on as many as 25 or 30 such documents each month.

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[4] The SCAQMD's permit projects are not included in its Certified Regulatory Program, and are evaluated under the traditional local government CEQA analysis. (Pub. Resources Code §§ 21150-21154.)

(SCAQMD Governing Board Agenda, Apr. 3, 2015, Agenda Item 16, Attachment A, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-april-3-2015; then follow "16. Lead Agency Projects and Environmental Documents Received by SCAQMD" hyperlink (last visited Apr. 1, 2015).) Of course, SCAQMD focuses its commenting efforts on the more significant projects.

Typically, SCAQMD comments on the adequacy of air quality analysis, appropriateness of assumptions and methodology, and completeness of the recommended air quality mitigation measures. Staff may comment on the need to prepare a health risk assessment detailing the projected cancer and noncancer risks from toxic air contaminants resulting from the project, particularly the impacts of diesel particulate matter, which CARB has identified as a toxic air contaminant based on its carcinogenic effects. (California Air Resources Board, Resolution 98-35, Aug. 27, 1998, http://www.arb.ca.gov/regact/diesltac/diesltac.htm; then follow Resolution 98-35 hyperlink (last visited Apr. 1, 2015).) Because SCAQMD already requires new or modified stationary sources of toxic air contaminants to use the best available control technology for toxics and to keep their risks below specified levels, (SCAQMD Rule 1401, supra, note 15), the greatest opportunity to further mitigate toxic impacts through the CEQA process is by reducing emissions—particularly diesel emissions—from vehicles.

II. THIS COURT SHOULD NOT SET A HARD-AND-FAST RULE CONCERNING THE EXTENT TO WHICH AN EIR MUST CORRELATE A PROJECT'S EMISSION OF POLLUTANTS WITH RESULTING HEALTH IMPACTS.

Numerous cases hold that courts do not review the correctness of an EIR's conclusions but rather its sufficiency as an informative document. (*Laurel Heights 1, supra*, 47 Cal.3d at p. 392; *Citizens of Goleta Valley v.*

Bd. of Supervisors (1990) 52 Cal.3d 553, 569; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1197.)

As stated by the Court of Appeal in this case, where an EIR has addressed a topic, but the petitioner claims that the information provided about that topic is insufficient, courts must "draw[] a line that divides *sufficient* discussions from those that are *insufficient*." (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) The Court of Appeal readily admitted that "[t]he terms themselves – sufficient and insufficient – provide little, if any, guidance as to where the line should be drawn. They are simply labels applied once the court has completed its analysis." (*Id.*)

The CEQA Guidelines, however, provide guidance regarding what constitutes a sufficient discussion of impacts. Section 15151 states that "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." Case law reflects this: "Analysis of environmental effects need not be exhaustive, but will be judged in light of what was reasonably feasible." (*Association of Irritated Residents v. County of Madera, supra,* 107 Cal.App.4th at p. 1390; see also CEQA Guidelines § 15204(a).)

Applying this test, this Court cannot realistically establish a hard-and-fast rule that an analysis correlating air pollution impacts of a project to quantified resulting health impacts is always required, or indeed that it is never required. Simply put, in some cases such an analysis will be "feasible"; in some cases it will not.

For example, air pollution control districts often require a proposed new source of toxic air contaminants to prepare a "health risk assessment" before issuing a permit to construct. District rules often limit the allowable cancer risk the new source may cause to the "maximally exposed individual" (worker and residence exposures). (*See, e.g.*, SCAQMD Rule 1401(c)(8); 1401(d)(1), *supra* note 15.) In order to perform this analysis, it

is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). (SCAQMD, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act (AB2588), pp. 11-16*; (last visited Apr. 1, 2015) http://www.aqmd.gov/home/library/documents-support-material; "Guidelines" hyperlink; AB2588; then follow AB2588 Risk Assessment Guidelines hyperlink.)

Thus, it is feasible to determine the health risk posed by a new gas station locating at an intersection in a mixed use area, where receptor locations are known. On the other hand, it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s)). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk—it does not necessarily mean anyone will contract cancer as a result of the project.

In order to find the "cancer burden" or expected additional cases of cancer resulting from the project, it is also necessary to know the numbers and location of individuals living within the "zone of impact" of the project: i.e., those living in areas where the projected cancer risk from the project exceeds one in a million. (SCAQMD, Health Risk Assessment Summary form, http://www.aqmd.gov/home/forms ; filter by "AB2588" category; then "Health Risk Assessment" hyperlink (last visited Apr. 1, 2015).) The affected population is divided into bands of those exposed to at least 1 in a million risk, those exposed to at least 10 in a million risk, etc. up to those exposed at the highest levels. (*Id.*) This data allows agencies to calculate an approximate number of additional cancer cases expected from

the project. However, it is not possible to predict which particular individuals will be affected.

For the so-called criteria pollutants[5], such as ozone, it may be more difficult to quantify health impacts. Ozone is formed in the atmosphere from the chemical reaction of the nitrogen oxides (NO_x) and volatile organic compounds (VOC) in the presence of sunlight. (U.S. EPA, Ground Level Ozone, http://www.epa.gov/airquality/ozonepollution/ (last updated Mar. 25, 2015).) It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. (U.S. EPA, *Guideline on Ozone Monitoring Site Selection* (Aug. 1998) EPA-454/R-98-002 § 5.1.2, http://www.epa.gov/ttnamti1/archive/cpreldoc.html (last visited Apr. 1, 2015).) NO_x and VOC are known as "precursors" of ozone.

Scientifically, health effects from ozone are correlated with increases in the ambient level of ozone in the air a person breathes. (U.S. EPA, *Health Effects of Ozone in the General Population,* Figure 9, http://www.epa.gov/apti/ozonehealth/population.html#levels (last visited Apr. 1, 2015).) However, it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NO_x by 432 tons per day (157,680 tons/year) and reducing VOC by 187 tons per day (68,255 tons/year) would reduce ozone levels at the SCAQMD's monitor site with the highest levels by only 9 parts per billion. (South Coast Air Quality Management District, *Final 2012 AQMP (February 2013)*, http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan; then follow "Appendix V: Modeling & Attainment Demonstrations" hyperlink,

[5] See discussion of types of pollutants, supra, Part I.A.

pp. v-4-2, v-7-4, v-7-24.) SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NO_x or VOC emissions from relatively small projects.

On the other hand, this type of analysis may be feasible for projects on a regional scale with very high emissions of NO_x and VOCs, where impacts are regional. For example, in 2011 the SCAQMD performed a health impact analysis in its CEQA document for proposed Rule 1315, which authorized various newly-permitted sources to use offsets from the districts "internal bank" of emission reductions. This CEQA analysis accounted for essentially *all* the increases in emissions due to new or modified sources in the District between 2010 and 2030.[6] The SCAQMD was able to correlate this very large emissions increase (e.g., 6,620 pounds per day NO_x (1,208 tons per year), 89,180 pounds per day VOC (16,275 tons per year)) to expected health outcomes from ozone and particulate matter (e.g., 20 premature deaths per year and 89,947 school absences in the year 2030 due to ozone).[7] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System* (see hyperlink in fn 6) at p. 4.1-35, Table 4.1-29.)

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[6] (SCAQMD Governing Board Agenda, February 4, 2011, Agenda Item 26, Attachment G, *Assessment for: Re-adoption of Proposed Rule 1315 – Federal New Source Review Tracking System, Vol. 1, p.4.0-6*, http://www.aqmd.gov/home/library/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-february-4-2011; the follow "26. Adopt Proposed Rule 1315 – Federal New Source Review Tracking System" (last visited April 1, 2015).)

[7] The SCAQMD was able to establish the location of future NO_x and VOC emissions by assuming that new projects would be built in the same locations and proportions as existing stationary sources. This CEQA document was upheld by the Los Angeles County Superior Court in *Natural Res. Def. Council v SCAQMD*, Los Angeles Superior Court No. BS110792).

However, a project emitting only 10 tons per year of NO_x or VOC is small enough that its regional impact on ambient ozone levels may not be detected in the regional air quality models that are currently used to determine ozone levels. Thus, in this case it would not be feasible to directly correlate project emissions of VOC or NO_x with specific health impacts from ozone. This is in part because ozone formation is not linearly related to emissions. Ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology and seasonal impacts, and because ozone is formed some time later and downwind from the actual emission. (EPA Guideline on Ozone Monitoring Site Selection (Aug. 1998) EPA-454/R-98-002, § 5.1.2; https://www.epa.gov/ttnamti1/archive/cpreldoc.html; then search "Guideline on Ozone Monitoring Site Selection" click on pdf) (last viewed Apr. 1, 2015).)

SCAQMD has set its CEQA "significance" threshold for NO_x and VOC at 10 tons per year (expressed as 55 lb/day). (SCAQMD, *Air Quality Analysis Handbook*, http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook; then follow "SCAQMD Air Quality Significance Thresholds" hyperlink (last visited Apr. 1, 2015).) This is because the federal Clean Air Act defines a "major" stationary source for "extreme" ozone nonattainment areas such as SCAQMD as one emitting 10 tons/year. (42 U.S.C. §§ 7511a(e), 7511a(f); CAA §§ 182(e), 182(f).) Under the Clean Air Act, such sources are subject to enhanced control requirements (42 U.S.C. §§ 7502(c)(5), 7503; CAA §§ 172(c)(5), 173), so SCAQMD decided this was an appropriate threshold for making a CEQA "significance" finding and requiring feasible mitigation. Essentially, SCAQMD takes the position that a source that emits 10 tons/year of NO_x or VOC would contribute cumulatively to ozone formation. Therefore, lead agencies that use SCAQMD's thresholds of significance may determine

that many projects have "significant" air quality impacts and must apply all feasible mitigation measures, yet will not be able to precisely correlate the project to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program.

In the case of particulate matter ($PM_{2.5}$)[8], another "criteria" pollutant, SCAQMD staff is aware of two possible methods of analysis. SCAQMD used regional modeling to predict expected health impacts from its proposed Rule 1315, as mentioned above. Also, the California Air Resources Board (CARB) has developed a methodology that can predict expected mortality (premature deaths) from large amounts of $PM_{2.5}$. (California Air Resources Board, *Health Impacts Analysis: PM Premature Death Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort_arch.htm (last reviewed Jan. 19, 2012).) SCAQMD used the CARB methodology to predict impacts from three very large power plants (e.g., 731-1837 lbs/day). (Final Environmental Assessment for Rule 1315, *supra*, pp 4.0-12, 4.1-13, 4.1-37 (e.g., 125 premature deaths in the entire SCAQMD in 2030), 4.1-39 (0.05 to 1.77 annual premature deaths from power plants.) Again, this project involved large amounts of additional $PM_{2.5}$ in the District, up to 2.82 tons/day (5,650 lbs/day of $PM_{2.5}$, or, or 1029 tons/year. (*Id.* at table 4.1-4, p. 4.1-10.)

However, the primary author of the CARB methodology has reported that this $PM_{2.5}$ health impact methodology is not suited for small projects and may yield unreliable results due to various uncertainties.[9] (SCAQMD, *Final Subsequent Mitigated Negative Declaration for: Warren*

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[8] SCAQMD has not attained the latest annual or 24-hour national ambient air quality standards for "$PM_{2.5}$" or particulate matter less than 2.5 microns in diameter.

[9] Among these uncertainties are the representativeness of the population used in the methodology, and the specific source of PM and the corresponding health impacts. (*Id.* at p. 2-24.)

E&P, Inc. WTU Central Facility, New Equipment Project (certified July 19, 2011), http://www.aqmd.gov/home/library/documents-support-material/lead-agency-permit-projects/permit-project-documents---year-2011; then follow "Final Subsequent Mitigated Negative Declaration for Warren E&P Inc. WTU Central Facility, New Equipment Project" hyperlink, pp. 2-22, 2-23 (last visited Apr. 1, 2015).) Therefore, when SCAQMD prepared a CEQA document for the expansion of an existing oil production facility, with very small $PM_{2.5}$ increases (3.8 lb/day) and a very small affected population, staff elected not to use the CARB methodology for using estimated $PM_{2.5}$ emissions to derive a projected premature mortality number and explained why it would be inappropriate to do so. (*Id.* at pp 2-22 to 2-24.) SCAQMD staff concluded that use of this methodology for such a small source could result in unreliable findings and would not provide meaningful information. (*Id.* at pp. 2-23, 2-25.) This CEQA document was not challenged in court.

In the above case, while it may have been technically possible to plug the data into the methodology, the results would not have been reliable or meaningful. SCAQMD believes that an agency should not be required to perform analyses that do not produce reliable or meaningful results. This Court has already held that an agency may decline to use even the "normal" "existing conditions" CEQA baseline where to do so would be misleading or without informational value. (*Neighbors for Smart Rail v. Exposition Metro Line* (2013) 57 Cal.4th 439, 448, 457.) The same should be true for a decision that a particular study or analysis would not provide reliable or meaningful results.[10]

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[10] Whether a particular study would result in "informational value" is a part of deciding whether it is "feasible." CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and

Therefore, it is not possible to set a hard-and-fast rule on whether a correlation of air quality impacts with specific quantifiable health impacts is required in all cases. Instead, the result turns on whether such an analysis is reasonably feasible in the particular case.[11] Moreover, what is reasonably feasible may change over time as scientists and regulatory agencies continually seek to improve their ability to predict health impacts. For example, CARB staff has been directed by its Governing Board to reassess and improve the methodology for estimating premature deaths. (California Air Resources Board, *Health Impacts Analysis: PM Mortality Relationship*, http://www.arb.ca.gov/research/health/pm-mort/pm-mort.htm (last reviewed Dec. 29, 2010).) This factor also counsels against setting any hard-and-fast rule in this case.

III. THE QUESTION OF WHETHER AN EIR CONTAINS SUFFICIENT ANALYSIS TO MEET CEQA'S REQUIREMENTS IS A MIXED QUESTION OF FACT AND LAW GOVERNED BY TWO DIFFERENT STANDARDS OF REVIEW.

A. Standard of Review for Feasibility Determination and Sufficiency as an Informative Document

A second issue in this case is whether courts should review an EIR's informational sufficiency under the "substantial evidence" test as argued by Friant Ranch or the "independent judgment" test as argued by Sierra Club.

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technological factors." (Pub. Resources Code § 21061.1.) A study cannot be "accomplished in a *successful* manner" if it produces unreliable or misleading results.

[11] In this case, the lead agency did not have an opportunity to determine whether the requested analysis was feasible because the comment was non-specific. Therefore, SCAQMD suggests that this Court, after resolving the legal issues in the case, direct the Court of Appeal to remand the case to the lead agency for a determination of whether the requested analysis is feasible. Because Fresno County, the lead agency, did not seek review in this Court, it seems likely that the County has concluded that at least some level of correlation of air pollution with health impacts is feasible.

As this Court has explained, "a reviewing court must adjust its scrutiny to the nature of the alleged defect, depending on whether the claim is predominantly one of improper procedure or a dispute over the facts." (*Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 435.) For questions regarding compliance with proper procedure or other legal questions, courts review an agency's action de novo under the "independent judgment" test. (*Id.*) On the other hand, courts review factual disputes only for substantial evidence, thereby "accord[ing] greater deference to the agency's substantive factual conclusions." (*Id.*)

Here, Friant Ranch and Sierra Club agree that the case involves the question of whether an EIR includes sufficient information regarding a project's impacts. However, they disagree on the proper standard of review for answering this question: Sierra Club contends that courts use the independent judgment standard to determine whether an EIR's analysis is sufficient to meet CEQA's informational purposes,[12] while Friant Ranch contends that the substantial evidence standard applies to this question.

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[12] Sierra Club acknowledges that courts use the substantial evidence standard when reviewing predicate factual issues, but argues that courts ultimately decide as a matter of law what CEQA requires. (Answering Brief, pp. 14, 23.)

SCAQMD submits that the issue is more nuanced than either party contends. We submit that, whether a CEQA document includes sufficient analysis to satisfy CEQA's informational mandates is a mixed question of fact and law,[13] containing two levels of inquiry that should be judged by different standards.[14]

The state CEQA Guidelines set forth standards for the adequacy of environmental analysis. Guidelines Section 15151 states:

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good-faith effort at full disclosure.

In this case, the basic question is whether the underlying analysis of air quality impacts made the EIR "sufficient" as an informative document. However, whether the EIR's analysis was sufficient is judged in light of what was reasonably feasible. This represents a mixed question of fact and law that is governed by two different standards of review.

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[13] Friant Ranch actually states that the claim that an EIR lacks sufficient relevant information is, "most properly thought of as raising mixed questions of fact and law." (Opening Brief, p. 27.) However, the remainder of its argument claims that the court should apply the substantial evidence standard of review to all aspects of the issue.

[14] Mixed questions of fact and law issues may implicate predominantly factual subordinate questions that are reviewed under the substantial evidence test even though the ultimate question may be reviewed by the independent judgment test. *Crocker National Bank v. City and County of San Francisco* (1989) 49 Cal.3d 881, 888-889.

SCAQMD submits that an EIR's sufficiency as an informational document is ultimately a legal question that courts should determine using their independent judgment. This Court's language in *Laurel Heights I* supports this position. As this Court explained: "The court does not pass upon the correctness of the EIR's environmental conclusions, but only upon its *sufficiency as an informative document.*" (*Laurel Heights I, supra,* 47 Cal.3d at 392-393) (emphasis added.) As described above, the Court in *Vineyard Area Citizens v. City of Rancho Cordova, supra,* 40 Cal.4th at 431, also used its independent judgment to determine what level of analysis CEQA requires for water supply impacts. The Court did not defer to the lead agency's opinion regarding the law's requirements; rather, it determined for itself what level of analysis was necessary to meet "[t]he law's informational demands." (*Id.* at p. 432.) Further, existing case law also holds that where an agency fails to comply with CEQA's information disclosure requirements, the agency has "failed to proceed in the manner required by law." (*Save Our Peninsula Comm. v. Monterey County Bd. of Supervisors* (2001) 87 Cal.App.4th 99, 118.)

However, whether an EIR satisfies CEQA's requirements depends in part on whether it was reasonably feasible for an agency to conduct additional or more thorough analysis. EIRs must contain "a detailed statement" of a project's impacts (Pub. Res. Code § 21061), and an agency must "use its best efforts to find out and disclose all that it reasonably can." (CEQA Guidelines § 15144.) Nevertheless, "the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." (CEQA Guidelines § 15151.)

SCAQMD submits that the question of whether additional analysis or a particular study suggested by a commenter is "feasible" is generally a question of fact. Courts have already held that whether a particular alternative is "feasible" is reviewed by the substantial evidence test.

(*Uphold Our Heritage v. Town of Woodside* (2007) 147 Cal.App.4th 587, 598-99; *Center for Biological Diversity v. County of San Bernardino* (2010) 185 Cal.App.4th 866, 883.) Thus, if a lead agency determines that a particular study or analysis is infeasible, that decision should generally be judged by the substantial evidence standard. However, SCAQMD urges this Court to hold that lead agencies must explain the basis of any determination that a particular analysis is infeasible in the EIR itself. An EIR must discuss information, including issues related to the feasibility of particular analyses "in sufficient detail to enable meaningful participation and criticism by the public. '[W]hatever is required to be considered in an EIR must be in that formal report; what any official might have known from other writings or oral presentations cannot supply what is lacking in the report.'" (*Laurel Heights I, supra*, 47 Cal.3d at p. 405 (quoting *Santiago County Water District v. County of Orange* (1981) 118 Cal.App.3d 818, 831) (discussing analysis of alternatives).) The evidence on which the determination is based should also be summarized in the EIR itself, with appropriate citations to reference materials if necessary. Otherwise commenting agencies such as SCAQMD would be forced to guess where the lead agency's evidence might be located, thus thwarting effective public participation.

Moreover, if a lead agency determines that a particular study or analysis would not result in reliable or useful information and for that reason is not feasible, that determination should be judged by the substantial evidence test. (See *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority, supra*, 57 Cal.4th 439, 448, 457:

whether "existing conditions" baseline would be misleading or uninformative judged by substantial evidence standard.[15])

If the lead agency's determination that a particular analysis or study is not feasible is supported by substantial evidence, then the agency has not violated CEQA's information disclosure provisions, since it would be infeasible to provide additional information. This Court's decisions provide precedent for such a result. For example, this Court determined that the issue of whether the EIR should have included a more detailed discussion of future herbicide use was resolved because substantial evidence supported the agency's finding that "the precise parameters of future herbicide use could not be predicted." *Ebbetts Pass Forest Watch v. California Dept. of Forestry & Fire Protection* (2008) 43 Cal.4th 936, 955.

Of course, SCAQMD expects that courts will continue to hold lead agencies to their obligations to consult with, and not to ignore or misrepresent, the views of sister agencies having special expertise in the area of air quality. (*Berkeley Keep Jets Over the Bay v. Board of Port Commissioners* (2007) 91 Cal.App.4th 1344, 1364 n.11.) In some cases, information provided by such expert agencies may establish that the purported evidence relied on by the lead agency is not in fact "substantial". (*Id.* at pp. 1369-1371.)

In sum, courts retain ultimate responsibility to determine what CEQA requires. However, the law does not require exhaustive analysis, but only what is reasonably feasible. Agencies deserve deference for their factual determinations regarding what type of analysis is reasonably feasible. On the other hand, if a commenter requests more information, and the lead agency declines to provide it but does *not* determine that the

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[15] The substantial evidence standard recognizes that the courts "have neither the resources nor the scientific expertise" to weigh conflicting evidence on technical issues. (*Laurel Heights I, supra,* 47 Cal.3d 376, 393.)

requested study or analysis would be infeasible, misleading or uninformative, the question becomes whether the omission of that analysis renders the EIR inadequate to satisfy CEQA's informational purposes. (*Id.* at pp. 1370-71.) Again, this is predominantly a question of law and should be judged by the de novo or independent judgment standard of review. Of course, this Court has recognized that a "project opponent or reviewing court can always imagine some additional study or analysis that might provide helpful information. It is not for them to design the EIR. That further study...might be helpful does not make it necessary." (*Laurel Heights I, supra,* 47 Cal.3d 376, 415 – see also CEQA Guidelines § 15204(a) [CEQA "does not require a lead agency to conduct every test. . . recommended or demanded by commenters."].) Courts, then, must adjudicate whether an omission of particular information renders an EIR inadequate to serve CEQA's informational purposes.[16]

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[16] We recognize that there is case law stating that the substantial evidence standard applies to "challenges to the scope of an EIR's analysis of a topic" as well as the methodology used and the accuracy of the data relied on in the document "because these types of challenges involve factual questions." (*Bakersfield Citizens for Local Control v. City of Bakersfield, supra,* 124 Cal.App.4th 1184, 1198, and cases relied on therein.) However, we interpret this language to refer to situations where the question of the scope of the analysis really is factual—that is, where it involves whether further analysis is feasible, as discussed above. This interpretation is supported by the fact that the *Bakersfield* court expressly rejected an argument that a claimed "omission of information from the EIR should be treated as inquiries whether there is substantial evidence supporting the decision approving the project. " *Bakersfield, supra,* 124 Cal.App.4th at p. 1208. And the *Bakersfield* court ultimately decided that the lead agency must analyze the connection between the identified air pollution impacts and resulting health impacts, even though the EIR already included some discussion of air-pollution-related respiratory illnesses. *Bakersfield, supra,* 124 Cal.App.4th at p. 1220. Therefore, the court must not have interpreted this question as one of the "scope of the analysis" to be judged by the substantial evidence standard.

B. Friant Ranch's Rationale for Rejecting the Independent Judgment Standard of Review is Unsupported by Case Law.

In its brief, Friant Ranch makes a distinction between cases where a required CEQA topic is not discussed at all (to be reviewed by independent judgment as a failure to proceed in the manner required by law) and cases where a topic is discussed, but the commenter claims the information provided is insufficient (to be judged by the substantial evidence test). (Opening Brief, pp. 13-17.) The Court of Appeal recognized these two types of cases, but concluded that both raised questions of law. (*Sierra Club v. County of Fresno* (2014) 226 Cal.App.4th 704 (superseded by grant of review) 172 Cal.Rptr.3d 271, 290.) We believe the distinction drawn by Friant Ranch is unduly narrow, and inconsistent with cases which have concluded that CEQA documents are insufficient. In many instances, CEQA's requirements are stated broadly, and the courts must interpret the law to determine what level of analysis satisfies CEQA's mandate for providing meaningful information, even though the EIR discusses the issue to some extent.

For example, the CEQA Guidelines require discussion of the existing environmental baseline. In *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 954-955, the lead agency had discussed the environmental baseline by describing historic month-end water levels in the affected lakes. However, the court held that this was not an adequate baseline discussion because it failed to discuss the timing and amounts of past actual water releases, to allow comparison with the proposed project. The court evidently applied the independent judgment test to its decision, even though the agency discussed the issue to some extent.

Likewise, in *Vineyard Area Citizens* (2007) 40 Cal.4th 412, this Court addressed the question of whether an EIR's analysis of water supply impacts complied with CEQA. The parties agreed that the EIR was required to analyze the effects of providing water to the development project, "and that in order to do so the EIR had, in some manner, to identify the planned sources of that water." (*Vineyard Area Citizens, supra,* at p. 428.) However, the parties disagreed as to the level of detail required for this analysis and "what level of uncertainty regarding the availability of water supplies can be tolerated in an EIR . . . ." (*Id.*) In other words, the EIR had analyzed water supply impacts for the project, but the petitioner claimed that the analysis was insufficient.

This Court noted that neither CEQA's statutory language or the CEQA Guidelines specifically addressed the question of how precisely an EIR must discuss water supply impacts. (*Id.*) However, it explained that CEQA "states that '[w]hile foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can.'" (*Id.*, [Guidelines § 15144].) The Court used this general principle, along with prior precedent, to elucidate four "principles for analytical adequacy" that are necessary in order to satisfy "CEQA's informational purposes." (*Vineyard Area Citizens, supra,* at p. 430.) The Court did not defer to the agency's determination that the EIR's analysis of water supply impacts was sufficient. Rather, this Court used its independent judgment to determine for itself the level of analysis required to satisfy CEQA's fundamental purposes. (*Vineyard Area Citizens, supra*, at p. 441: an EIR does not serve its purposes where it neglects to explain likely sources of water and "... leaves long term water supply considerations to later stages of the project.")

Similarly, the CEQA Guidelines require an analysis of noise impacts of the project. (Appendix G, "Environmental Checklist Form."[17]) In *Gray v. County of Madera* (2008) 167 Cal.App.4th 1099, 1123, the court held that the lead agency's noise impact analysis was inadequate even though it had addressed the issue and concluded that the increase would not be noticeable. If the court had been using the substantial evidence standard, it likely would have upheld this discussion.

Therefore, we do not agree that the issue can be resolved on the basis suggested by Friant Ranch, which would apply the substantial evidence standard to *every* challenge to an analysis that addresses a required CEQA topic. This interpretation would subvert the courts' proper role in interpreting CEQA and determining what the law requires.

Nor do we agree that the Court of Appeal in this case violated CEQA's prohibition on courts interpreting its provisions "in a manner which imposes procedural or substantive requirements beyond those explicitly stated in this division or in the state guidelines." (Pub. Resources Code § 21083.1.) CEQA requires an EIR to describe *all* significant impacts of the project on the environment. (Pub. Resources Code § 21100(b)(2); *Vineyard Area Citizens, supra,* at p. 428.) Human beings are part of the environment, so CEQA requires EIRs to discuss a project's significant impacts on human health. However, except in certain particular circumstances,[18] neither the CEQA statute nor Guidelines specify the precise level of analysis that agencies must undertake to satisfy the law's requirements. (see, e.g., CEQA Guidelines § 15126.2(a) [EIRs must describe "health and safety problems caused by {a project's} physical changes"].) Accordingly, courts must interpret CEQA as a whole to

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[17] Association of Environmental Professionals, 2015 CEQA Statute and Guidelines (2015) p.287.

[18] E.g., Pub. Resources Code § 21151.8(C)(3)(B)(iii) (requiring specific type of health risk analysis for siting schools).

determine whether a particular EIR is sufficient as an informational document. A court determining whether an EIR's discussion of human health impacts is legally sufficient does not constitute imposing a new substantive requirement.[19] Under Friant Ranch's theory, the above-referenced cases holding a CEQA analysis inadequate would have violated the law. This is not a reasonable interpretation.

IV. COURTS MUST SCRUPULOUSLY ENFORCE THE REQUIREMENTS THAT LEAD AGENCIES CONSULT WITH AND OBTAIN COMMENTS FROM AIR DISTRICTS

Courts must "scrupulously enforce" CEQA's legislatively mandated requirements. (*Vineyard Area Citizens, supra*, 40 Cal.4th 412, 435.) Case law has firmly established that lead agencies must consult with the relevant air pollution control district before conducting an initial study, and must provide the districts with notice of the intention to adopt a negative declaration (or EIR). (*Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 958.) As *Schenck* held, neither publishing the notice nor providing it to the State Clearinghouse was a sufficient substitute for sending notice directly to the air district. (*Id.*) Rather, courts "must be satisfied that [administrative] agencies have fully complied with the procedural requirements of CEQA, since only in this way can the important public purposes of CEQA be protected from subversion." *Schenck,* 198 Cal.App.4th at p. 959 (citations omitted).[20]

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[19] We submit that Public Resources Code Section 21083.1 was intended to prevent courts from, for example, holding that an agency must analyze economic impacts of a project where there are no resulting environmental impacts (see CEQA Guidelines § 15131) , or imposing new procedural requirements, such as imposing additional public notice requirements not set forth in CEQA or the Guidelines.

[20] Lead agencies must consult air districts, as public agencies with jurisdiction by law over resources affected by the project, *before* releasing an EIR. (Pub. Resources Code §§ 21104(a); 21153.) Moreover, air

Lead agencies should be aware, therefore, that failure to properly seek and consider input from the relevant air district constitutes legal error which may jeopardize their project approvals. For example, the court in *Fall River Wild Trout Foundation v. County of Shasta,* (1999) 70 Cal.App.4th 482, 492 held that the failure to give notice to a trustee agency (Department of Fish and Game) was prejudicial error requiring reversal. The court explained that the lack of notice prevented the Department from providing any response to the CEQA document. (*Id.* at p. 492.) It therefore prevented relevant information from being presented to the lead agency, which was prejudicial error because it precluded informed decision-making. (*Id.*)[21]

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districts should be considered "state agencies" for purposes of the requirement to consult with "trustee agencies" as set forth in Public Resources Code § 20180.3(a). This Court has long ago held that the districts are not mere "local agencies" whose regulations are superseded by those of a state agency regarding matters of statewide concern, but rather have concurrent jurisdiction over such issues. (*Orange County Air Pollution Control District v. Public Util. Com.* (1971) 4 Cal.3d 945, 951, 954.) Since air pollution is a matter of statewide concern, *Id* at 952, air districts should be entitled to trustee agency status in order to ensure that this vital concern is adequately protected during the CEQA process.

[21] In *Schenck,* the court concluded that failure to give notice to the air district was not prejudicial, but this was partly because the trial court had already corrected the error before the case arrived at the Court of Appeal. The trial court issued a writ of mandate requiring the lead agency to give notice to the air district. The air district responded by concurring with the lead agency that air impacts were not significant. (*Schenck,* 198 Cal.App.4th 949, 960.) We disagree with the *Schenck* court that the failure to give notice to the air district would not have been prejudicial (even in the absence of the trial court writ) merely because the lead agency purported to follow the air district's published CEQA guidelines for significance. (*Id.*, 198 Cal.App.4th at p. 960.) In the first place, absent notice to the air district, it is uncertain whether the lead agency properly followed those guidelines. Moreover, it is not realistic to expect that an air district's published guidelines would necessarily fully address all possible air-quality related issues that can arise with a CEQA project, or that those

Similarly, lead agencies must obtain additional information requested by expert agencies, including those with jurisdiction by law, if that information is necessary to determine a project's impacts. (*Sierra Club v. State Bd. Of Forestry* (1994) 7 Cal.4th 1215, 1236-37.) Approving a project without obtaining that information constitutes a failure to proceed in the manner prescribed by CEQA. (*Id.* at p. 1236.)

Moreover, a lead agency can save significant time and money by consulting with the air district early in the process. For example, the lead agency can learn what the air district recommends as an appropriate analysis on the facts of its case, including what kinds of health impacts analysis may be available, and what models are appropriate for use. This saves the lead agency from the need to do its analysis all over again and possibly needing to recirculate the document after errors are corrected, if new significant impacts are identified. (CEQA Guidelines § 15088.5(a).) At the same time, the air district's expert input can help the lead agency properly determine whether another commenter's request for additional analysis or studies is reasonable or feasible. Finally, the air district can provide input on what mitigation measures would be feasible and effective.

Therefore, we suggest that this Court provide guidance to lead agencies reminding them of the importance of consulting with the relevant air districts regarding these issues. Otherwise, their feasibility decisions may be vulnerable to air district evidence that establishes that there is no substantial evidence to support the lead agency decision not to provide specific analysis. (*See Berkeley Keep Jets Over the Bay, supra,* 91 Cal.App.4th 1344, 1369-1371.)

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guidelines would necessarily be continually modified to reflect new developments. Therefore we believe that, had the trial court not already ordered the lead agency to obtain the air district's views, the failure to give notice would have been prejudicial, as in *Fall River, supra,* 70 Cal.App.4th 482, 492.

CONCLUSION

The SCAQMD respectfully requests this Court *not* to establish a hard-and-fast rule concerning whether CEQA requires a lead agency to correlate identified air quality impacts of a project with resulting health outcomes. Moreover, the question of whether an EIR is "sufficient as an informational document" is a mixed question of fact and law containing two levels of inquiry. Whether a particular proposed analysis is feasible is predominantly a question of fact to be judged by the substantial evidence standard of review. Where the requested analysis is feasible, but the lead agency relies on legal or policy reasons not to provide it, the question of whether the EIR is nevertheless sufficient as an informational document is predominantly a question of law to be judged by the independent judgment standard of review.

Respectfully submitted,

DATED: April 3, 2015

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CERTIFICATE OF WORD COUNT

Pursuant to Rule 8.520(c)(1) of the California Rules of Court, I hereby certify that this brief contains 8,476 words, including footnotes, but excluding the Application, Table of Contents, Table of Authorities, Certificate of Service, this Certificate of Word Count, and signature blocks. I have relied on the word count of the Microsoft Word Vista program used to prepare this Certificate.

DATED: April 3, 2015 Respectfully submitted,

Barbara Baird

Barbara Baird

PROOF OF SERVICE

I am employed in the County of Los Angeles, California. I am over the age of 18 years and not a party to the within action. My business address is 21865 Copley Drive, Diamond Bar, California 91765.

On April 3, 2015 I served true copies of the following document(s) described as **APPLICATION OF THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT FOR LEAVE TO FILE BRIEF OF *AMICUS CURIAE* IN SUPPORT OF NEITHER PARTY AND *[PROPOSED]* BRIEF OF *AMICUS CURIAE*** by placing a true copy of the foregoing document(s) in a sealed envelope addressed as set forth on the attached service list as follows:

BY MAIL: I enclosed the document(s) in a sealed envelope or package addressed to the persons at the addresses listed in the Service List and placed the envelope for collection and mailing following our ordinary business practices. I am readily familiar with this District's practice for collection and processing of correspondence for mailing. Under that practice, the correspondence would be deposited with the United States Postal Service, with postage thereon fully prepaid at Diamond Bar, California, in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed on April 3, 2015 at Diamond Bar, California.

Patricia Anderson

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