Air Quality and Greenhouse Gas Analysis

In Support of:

Mission Trail Apartments Project

CEQA Environmental Documentation

Prepared for:

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February 2017

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List of Acronyms

°F	Degrees Fahrenheit
AAQS	Ambient Air Quality Standards
AQMP	Air Quality Management Plan
AB	Assembly Bill
BACT	Best Available Control Technology
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association's
CARB	California Air Resources Board
CAT	California Climate Action Team
CCAA	California Clean Air Act of 1988
CEQA	California Environmental Quality Act
CH_4	Methane
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalents
COHb	Carboxyhemoglobin
DPM	Diesel Particulate Matter
EIR	Environmental Impact Report
GHG	Greenhouse Gas
GWP	Global Warming Potential
HDVs	Heavy-Duty Vehicles
HFCs	Hydrofluorocarbons
IS/MND	Impact Statement/Mitigated Negative Declaration
LDVR	Light Duty Vehicle Rule
LCFS	Low Carbon Fuel Standard
LED	Low Emitting Diode
LOS	Level Of Service
MATES IV	Multiple Air Toxics Exposure Study IV
$\mu g/m^3$	Micrograms per meter cubed
mty	Metric tonnes per year
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NF_3	Nitrogen Trifluoride
NHTSA	National Highway Traffic Safety Administration
NO2	Nitrogen Dioxide
NOX	Nitrogen Oxides
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
PERP	Statewide Portable Equipment Registration Project
PFCs	Perfluorocarbons
PM10	Particulate Matter less than 10 microns in diameter
PM2.5	Particulate Matter less than 2.5 microns in diameter
ppb	Parts per billion
ppm	Parts per million

SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SF_6	Sulfur Hexafluoride
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SRA	Source Receptor Area
Study	Air Quality and GHG Study
TAC	Toxic Air Contaminants
UFP	Ultrafine Particles
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds

1.0 Introduction

This Air Quality and Greenhouse Gas (GHG) Technical Study (Study) was prepared in support of environmental documentation, pursuant to the California Environmental Quality Act (CEQA), for the Lake Elsinore CCR LLC, Mission Trail Apartments Project (Project). This Study describes potential impacts to air quality, human health and GHG that could result from construction and operation of the Project. The City of Lake Elsinore is the lead agency under CEQA for the proposed Project.

The proposed Project is located west of Mission Trail, approximately 500 feet south of Hidden Trail/Elberta Road, in the City of Lake Elsinore, Riverside County, California. The Project site is regionally accessible from Interstate 15 at Diamond Drive/Railroad Canyon Road to the north and from Interstate 15 at Bundy Canyon Road to the south.

The Project proponent proposes to construct an affordable apartment building complex. The complex would consist of 81 multi-family residences and 190 parking spaces. A detailed description of the proposed Project components is provided in the Project Description section of the Impact Statement/Mitigated Negative Declaration (IS/MND).

The property is unique in that it is located within the flood plain and has an existing drainage channel running through the center of the site. The existing drainage channel will be undergrounded and extended through the site, and will be improved in conformance with City of Lake Elsinore standards.

2.0 Environmental Setting

Project activities would be limited to the proposed development site and surrounding roadways, within the South Coast Air Basin (SCAB). The SCAB includes all of Orange County, and the urban portions of Los Angeles, San Bernardino, and Riverside counties. The SCAB covers an area of approximately 15,500 square kilometers (6,000 square miles) and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto mountains; and on the south by the San Diego county line.

2.1 Regional Climate and Meteorology

The climate of the region is classified as Mediterranean, which is characterized by warm summers with little precipitation and mild winters with moderate precipitation. The major influences on the regional climate are the Eastern Pacific High, a strong, persistent high-pressure system, and the moderating effects of the Pacific Ocean. Seasonal variations in the position and strength of the Eastern Pacific High are key factors in the weather changes in the area.

The Eastern Pacific High attains its greatest strength and most northerly position during the summer, when it is centered west of northern California. In this location, this high effectively shelters southern California from the effects of polar storm systems. Large-scale atmospheric subsidence associated with the high produces an elevated temperature inversion along the West Coast. The base of this subsidence inversion is generally 1,000 to 2,500 feet above mean sea level during the summer. Vertical mixing is often limited to the base of the inversion, and air pollutants are trapped in the lower atmosphere.

The mountain ranges that surround the SCAB constrain the horizontal movement of air and inhibit the dispersion of air pollutants out of the region. These two factors, combined with the air pollution sources from more than 15 million people plus businesses and industries, are responsible for the high pollutant conditions that can occur in the SCAB. In addition, high solar radiation during the summer months promotes the formation of ozone (O_3).

The proximity of the Eastern Pacific High and a thermal low-pressure system in the desert interior to the east produces a sea breeze regime that prevails within the Project region for most of the year, particularly during the spring and summer months. During the fall and winter months, the Eastern Pacific High can combine with high pressure over the continent to produce light winds and extended inversion conditions in the region. These stagnant atmospheric conditions often result in elevated pollutant concentrations in the SCAB. Excessive buildup of high pressure in the desert interior can produce a “Santa Ana” condition, characterized by warm, dry, northeast winds in the basin and offshore regions. Santa Ana winds often help clear the SCAB of air pollutants.

Meteorological data, including temperatures and precipitation, are measured at meteorological stations operated by the National Weather Service. The average high and low air temperatures at the Elsinore Station (042805), the closest station with a complete temperature and precipitation record, located approximately 0.5 miles northwest of the Project site, were 80 degrees Fahrenheit (°F) and 47°F, respectively (WRCC, 2016).

The Eastern Pacific High weakens in the winter and shifts to the south, allowing storm systems to pass through the region. The number of days with precipitation varies substantially from year to year, which produces a wide range of variability in annual precipitation totals. The average annual precipitation at the Elsinore Station was 12 inches between 1897 and 2016 (WRCC, 20166). Approximately 90 percent of the annual rainfall occurs November through April, with a monthly average maximum of 2.5 inches in February. This wet-dry seasonal pattern is characteristic of most of California. Infrequent precipitation

during the summer months usually occurs from tropical air masses that originate from continental Mexico or tropical storms off the west coast of Mexico.

2.2 Ambient Air Quality

Air pollutants are defined as two general types: (1) "criteria" pollutants, representing six pollutants for which national and state health- and welfare-based ambient air quality standards (AAQS) have been established; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have AAQS. The three TACs that do have AAQS (i.e., lead, vinyl chloride, and hydrogen sulfide) would not be expected to result from anticipated activities and are not considered to be pollutants of concern for the proposed Project. In addition, sulfates and visibility-reducing particles would also not be expected to result from anticipated activities.

2.2.1 Criteria Pollutants

Air quality at a given location can be described by the concentrations of various air pollutants in the atmosphere near ground level. The significance of a pollutant concentration is determined by comparing the pollutant's concentration to an appropriate national and/or state ambient air quality standard. These standards represent the allowable atmospheric concentrations at which the public health and welfare are protected and include a reasonable margin of safety to protect the more sensitive individuals in the population.

The United States Environmental Protection Agency (USEPA), the California Air Resources Board (CARB), and the local air districts classify an area as attainment, unclassified, or nonattainment depending on whether the monitored ambient air quality data show compliance, lack of data, or noncompliance with the AAQS, respectively. The National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) relevant to the proposed Project are provided in Table 1.

Table 2 summarizes the federal and state attainment status of criteria pollutants for the SCAB based on the NAAQS and CAAQS, respectively.

The criteria pollutants of concern assessed in this Study are O_3, particulate matter less than 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Of these criteria pollutants, O_3 is unique because it is not directly emitted. Rather, O_3 is a secondary pollutant, formed from precursor pollutants volatile organic compounds (VOC) and nitrogen oxides (NOx). VOC and NOx react to form O_3 in the presence of sunlight through a complex series of photochemical reactions. As a result, unlike inert pollutants, O_3 levels usually peak several hours after the precursors are emitted and many miles downwind of the source.

Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O_3 impacts are indirectly addressed by comparing project-generated emissions of VOC and NOx to daily emission thresholds set by the South Coast Air Quality Management District (SCAQMD).

Table 1. National and California Ambient Air Quality Standards

Pollutant	Averaging Period	California Standards	National Standards
O_3	1-hour	0.09 ppm	—
	8-hour [2]	0.070 ppm	0.070 ppm
PM_{10}	24-hour	50 µg/m^3	150 µg/m^3
	Annual	20 µg/m^3	—
$PM_{2.5}$	24-hour [3]	—	35 µg/m^3
	Annual	12 µg/m^3	12 µg/m^3
CO	1-hour	20 ppm	35 pm
	8-hour	9.0 ppm	9 ppm
NO_2	1-hour	0.18 ppm	0.100 ppm [1]
	Annual	0.030 ppm	0.053 ppm
SO_2	1-hour	0.25 ppm	0.075 ppm [1]
	3-hour	—	0.5 ppm
	24-hour	0.04 ppm	—
Lead	30-day	1.5 µg/m^3	—
	Quarter	—	1.5 µg/m^3
	3-month	—	0.15 µg/m^3
Sulfates	24-hour	25 µg/m^3	—
Visibility-Reducing Particles	8-hour	In sufficient amount to give an extinction coefficient of >0.23 inverse kilometers (visual range to less than 10 miles with relative humidity less than 70%	—
Hydrogen Sulfide	1-hour	0.03 ppm	—
Vinyl Chloride	24-hour	0.01 ppm	—

Notes:
ppm = parts per million; µg/m^3 = micrograms per cubic meter; "—" = no standards
Lead, sulfates, visibility-reducing particles, hydrogen sulfide and vinyl chloride would not be expected to result from anticipated proposed Project activities.
[1] The federal 1-hour NO_2 and SO_2 standards are based on the 3-year average of the 98th and 99th percentile of day maximum values, respectively.
[2] The federal 8-hour O_3 standard is based on the annual fourth-highest day maximum 8-hour concentration, averaged over 3 years.
[3] The federal 24-hour $PM_{2.5}$ standard is based on the 3-year average of the 98th percentile of the day values.
Source: (CARB, 2013a)

Table 2. SCAB Attainment Status

Pollutant	Attainment Status	
	Federal	State
Ozone	Extreme Nonattainment	Nonattainment
PM_{10}	Attainment/Maintenance	Nonattainment
$PM_{2.5}$	Moderate Nonattainment	Nonattainment
CO	Attainment/Maintenance	Attainment

Pollutant	Attainment Status	
	Federal	State
NO_2	Attainment/Maintenance	Attainment
SO_2	Attainment	Attainment
Source: (CARB, 2013b).		

Possible health effects associated with criteria pollutants may include the following:

Ozone

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

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

Carbon Monoxide

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

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

Particulate Matter

A consistent correlation between elevated ambient PM_{10} and $PM_{2.5}$ levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life-span, and an increased mortality from lung cancer. Day fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to

a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.

Nitrogen Dioxide

Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO_2.

Sulfur Dioxide

A few minutes of exposure to low levels of SO_2 can result in airway constriction in some asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2.

Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract.

Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

2.2.2 Local Air Quality Monitoring

Air quality within the SCAB has improved since the inception of air pollutant monitoring in 1976 by the SCAQMD. This improvement is due to the implementation of stationary source emission-reduction strategies by SCAQMD and lower polluting on-road motor vehicles. This trend toward cleaner air has occurred despite continued population growth. For example, while the national 8-hour ozone standard was exceeded on 134 days in 1989, at the Lake Elsinore monitoring station, the standard was exceeded on 19 days in 2015 (CARB, 2013-2015).

CARB and SCAQMD operate a network of pollutant monitoring and meteorological stations in the SCAB. The station closest to the proposed Project site is the Lake Elsinore W Flint Street station, located approximately 1 mile northwest of the proposed Project site. Table 3 presents the maximum pollutant concentrations measured at the Lake Elsinore monitoring stations from 2013-2015, the three most recent available years. Exceedances of the CAAQS and NAAQS are shown in bold text.

Table 3. Maximum Pollutant Concentrations Measured at the Lake Elsinore-W Flint Street Station

Pollutant	Averaging Period	Standard	Highest Monitored Concentration [a] / Number of Days Above Standard		
			2013	2014	2015
Ozone (ppm)	1-hour State [b]	0.09	**0.11 / 6**	**0.11 / 4**	**0.11 / 18**
	8-hour National [c]	0.07	**0.086 / 12**	**0.082 / 6**	**0.084 / 19**
	8-hour State [b]	0.07	**0.094 / 25**	**0.090 / 13**	**0.093 / 35**
CO (ppm)	1-hour National	35	--	--	--
	1-hour State	20	--	--	--
	8-hour National and State	9	--	--	--
NO_2 (ppm)	1-hour National [d]	0.100	0.041 / 0	0.040 / 0	0.039 / 0
	1-hour State [d]	0.18	0.050 / 0	0.050 / 0	0.050 / 0
	Annual National	0.053	0.009 / --	0.008 / --	0.009 / --
	Annual State	0.030	0.01 / --	0.01 / --	0.008 / --
SO_2 (ppm)	1-hour National	0.075	-- / --	-- / --	-- / --
	1-hour State	0.25	-- / --	-- / --	-- / --
	24-hour State	0.04	-- / --	-- / --	-- / --
PM_{10} (µg/m^3)	24-hour National [e]	150	46.7 / 0	86.1 / 0	78.4 / 0
	24-hour State	50	**-- / --**	**-- / --**	**-- / --**
	Annual State	20	**-- / --**	**-- / --**	**-- / --**
$PM_{2.5}$ (µg/m^3)	24-hour National [f]	35	**-- / --**	**-- / --**	**-- / --**
	Annual National [g]	12	**-- / --**	-- / --	-- / --
	Annual State [h]	12	11 / --	**12 / --**	**12 / --**

Notes:
[a] Exceedances of the standards are shown in **bold**. All reported values represent the highest recorded concentration unless otherwise noted.
[b] The monitored concentrations reported for the state 1-hour and 8-hour O_3 standards represent the California designation values.
[c] The monitored concentrations reported for the national 8-hour O_3 national standard design value.
[d] The monitored concentrations reported for the national 1-hour and annual NO_2 standard represent the national standard design values. The monitored concentrations reported for the state 1-hour and annual NO_2 standard represent the CA designation values.
[e] The monitored concentrations reported for the national 24-hour PM_{10} standard represent the 2nd highest concentration recorded during each calendar year. The standard is attained when the number of days per calendar year exceeding 150 ug/m^3 is equal to or less than one.
[f] The monitored concentrations reported for the national 24-hour $PM_{2.5}$ standard represent the 3-year average (including the reported year and the prior two years) of the 98th percentile of the annual distribution of day average concentrations.
[g] The monitored concentrations reported for the national annual $PM_{2.5}$ standard represent the annual standard design value.
[h] The monitored concentrations reported for the state annual $PM_{2.5}$ standard represent the annual standard designation value.
Source: iADAM Database (CARB, 2013-2015).

2.2.3 Toxic Air Contaminants

TACs are airborne compounds that are known or suspected to cause adverse human health effects after long-term (i.e., chronic) and/or short-term (i.e., acute) exposure. Cancer risk can result from chronic exposure, and non-cancer health effects can result from either chronic or acute exposure. Examples of TAC sources in the SCAB include diesel- and gasoline-powered internal combustion engines in mobile sources, such as construction equipment and vehicles; industrial processes and stationary sources, such

as dry cleaners, gasoline stations, and paint and solvent operations; and stationary fossil fuel-burning combustion sources, such as power plants.

Cancer risk due to TACs has declined in the SCAB as a result of federal, state and local regulations. SCAQMD initiated the first urban toxic air pollution study, Multiple Air Toxics Exposure Study (MATES) in 1998. The subsequent 2000 MATES II study estimated a 44% to 63% decrease in cancer risk compared to 1990. The 2008 MATES III study reported a SCAB-wide decrease of 8% from MATES II and the 2015 MATES IV study reported a SCAB-wide decrease of 57% from MATES III. The SCAQMD MATES studies show a decline in SCAB cancer risk despite continuing population growth.

MATES IV shows that the background cancer risk in the Project area is approximately 360 parts per million (ppm), and that more than 90 percent of the background airborne air toxics cancer risk in the SCAB is due to diesel particulate exhaust (SCAQMD, 2014a).

2.2.4 Secondary PM2.5 Formation

Within the SCAB, $PM_{2.5}$ particles are both directly emitted into the atmosphere (e.g., primary particles) and formed through atmospheric chemical reactions from precursor gases (e.g., secondary particles). Primary $PM_{2.5}$ includes diesel soot, combustion products, road dust, and other fine particles. Secondary $PM_{2.5}$, which includes chemicals such as sulfates, nitrates, and complex carbon compounds, are formed from reactions with directly emitted NOx, SOx, VOCs, and ammonia. Emissions of NOx, SOx, and VOCs, generated by the proposed Project, would contribute toward secondary $PM_{2.5}$ formation some distance downwind of the emission sources. However, the air quality analysis in this Study focuses on the effects of direct $PM_{2.5}$ emissions generated by the proposed Project. This approach is consistent with the recommendations of the SCAQMD (SCAQMD, 2006).

2.2.5 Ultrafine Particles

Although USEPA and the State of California currently monitor and regulate PM_{10} and $PM_{2.5}$, research is being done on ultrafine particles (UFPs), particles classified as less than 0.1 micron in diameter. UFPs are formed during combustion, independent of fuel type. When diesel fuel is used, UFPs can be formed directly from fuel combustion. With gasoline and natural gas (liquefied or compressed), UFPs are formed mostly from the burning of lubricant oils. UFPs are emitted directly from the tailpipe as solid particles (soot, or elemental carbon and metal oxides) and semi-volatile particles (sulfates and hydrocarbons) that coagulate to form particles. Research regarding UFPs suggests UFPs might be more dangerous to human health than the larger PM_{10} and $PM_{2.5}$ particles (termed fine particles) due to size and shape. Because of the smaller size, UFPs are able to travel more deeply into the lung (the alveoli) and are deposited in the deep lung regions more efficiently than fine particles (SCAQMD, 2012).

UFPs are inert; therefore, normal bodily defense does not recognize the particle. UFPs might have the ability to travel across cell layers and enter into the bloodstream and/or into individual cells. With a large surface area-to-volume ratio, other entities might attach to the particle and travel into the cell as a kind of “hitchhiker.” Studies have found that UFPs may also pose a risk to cardiovascular health, particular in at-risk individuals, and may be a risk-factor for heart arrhythmias (UCLA, 2010).

Current UFP research focuses primarily on roadway exposure. Preliminary studies suggest that over 50 percent of an individual’s daily exposure is from driving on highways (Fruin et al., 2004). Levels appear to drop off rapidly as one moves away from major roadways (Zhu et al. 2002a, 2002b).

2.2.6 Atmospheric Deposition

The fallout of air pollutants to the surface of the earth is known as atmospheric deposition. Atmospheric deposition occurs in both a wet and dry form. Wet deposition occurs in the form of precipitation or cloud water and is associated with the conversion in the atmosphere of directly emitted pollutants into secondary pollutants such as acids. Dry deposition occurs in the form of directly emitted pollutants or the conversion of gaseous pollutants into secondary PM. Atmospheric deposition can produce watershed acidification, aquatic toxic pollutant loading, deforestation, damage to building materials, and respiratory problems.

Construction and operational emission sources from the proposed Project would produce diesel particulate matter (DPM), which contains trace amounts of toxic chemicals, and gaseous pollutants. Proposed Project elements and mitigation measures will serve to reduce air pollutants from future operations, which will in turn reduce atmospheric deposition.

2.3 Greenhouse Gas Pollutants

Gases that trap heat in the atmosphere are called GHGs. The term GHGs includes gases that contribute to the natural greenhouse effect, such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), as well as gases that are only human-made and that are emitted through the use of modern industrial products, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF_6), and nitrogen trifluoride (NF_3). These last four families of gases, while not naturally present in the atmosphere, can trap infrared radiation when present. Together, these gases comprise the major GHGs recognized by the DOHA Amendments to the Kyoto Accords (Kyoto, 1997) (DOHA, 2012). There are other GHGs not recognized by the Kyoto Accords due either to the smaller role that they play in climate change or the uncertainties surrounding their effects. For example, atmospheric water vapor is not recognized by the Kyoto Accords because there is not an obvious correlation between water vapor concentrations and specific human activities. However, water vapor appears to act as a positive feedback mechanism; higher temperatures lead to higher water concentrations, which in turn cause more global warming (IPCC, 2001).

The effect each of these gases has on global warming is a combination of the volume of their emissions and their 100-year global warming potential (GWP). GWP, a unit-less quantity, indicates, on a pound-for-pound basis, how much a given GHG could contribute to global warming relative to how much warming would be caused by the same mass of CO_2. CH_4 and N_2O are substantially more potent than CO_2, with GWPs (100-year horizon) of 28 and 265, respectively. However, these natural GHGs are considerably less potent than HFCs, PFCs and SF_6. For example, SF_6 has a 100-year GWP of 23,500, and CFCs and HFCs have GWPs ranging from 1 to 13,900 (IPCC, 2013), making these gases more potent that CO_2.[1] In emissions inventories, GHG emissions are typically reported in terms of metric tonnes of carbon dioxide equivalents (mty CO_2e), which are calculated as the product of the mass emitted of a given GHG and its specific GWP.

The most important GHG in human-induced global warming is CO_2. While many gases have higher GWPs than the naturally occurring GHGs, CO_2 is emitted in higher quantities and accounts for 84 percent of the GWP of all GHGs emitted by the United States (USEPA, 2012). Fossil fuel combustion, especially from the generation of electricity and powering of motor vehicles, has led to substantial increases in CO_2 emissions and thus substantial increases in global atmospheric CO_2 concentrations over the last century. In 2005, the atmospheric CO_2 concentration was approximately 379 ppm, over 35 percent higher than the pre-industrial (defined as the year 1750) concentration of approximately 280 ppm (IPCC, 2007). The

[1] The analysis used CAPCOA's CalEEMod software, which reflects GWPs from IPCC's Fourth Assessment Report.

buildup of CO_2 in the atmosphere is a result of increased emissions and its relatively long lifespan in the atmosphere of 50 to 200 years.

Concentrations of the second most prominent GHG, CH_4, have also increased due to human activities such as rice production, degradation of waste in landfills, cattle farming, and natural gas mining. In 2005, the atmospheric level of CH_4 was more than double the pre-industrial level, up to 1,774 parts per billion (ppb) as compared to 715 ppb (IPCC, 2007) . CH_4 has a relatively short atmospheric lifespan of only 12 years, but it has a higher GWP potential than CO_2.

N_2O concentrations have increased from approximately 270 ppb in pre-industrial times to approximately 319 ppb by 2005 (IPCC, 2007). IPCC attributes most of the increase to agricultural practices (such as soil and manure management), as well as fossil-fuel combustion and the production of some acids. N_2O has a 120-year atmospheric lifespan, meaning that, in addition to its relatively large GWP, its influence is long lasting, which increases its role in global warming.

SF_6, used in the electric industry and refrigerants such as HFCs and PFCs are present in the atmosphere in relatively small concentrations but have extremely long lifespans between 32,000 and 50,000 years, making them potent GHGs.

GHGs differ from criteria pollutants in that GHG emissions do not cause direct adverse human health effects. Rather, the direct environmental effect of GHG emissions is the increase in global temperatures, which in turn may have numerous indirect effects on the environment and humans. For example, some observed changes could include shrinking glaciers; thawing permafrost; later freezing and earlier break-up of ice on rivers, lakes, and oceans; a lengthened growing season; shifts in plant and animal ranges; and earlier flowering of trees (IPCC, 2001). Other, longer term environmental impacts of global warming could include sea level rise; changing weather patterns with increases in the severity of storms and droughts; changes to local and regional ecosystems, including the potential loss of species; and a reduction in winter snow pack. Current predictions suggest that in the next 25 years California could experience longer and more extreme heat waves, greater intensity and frequency of heat waves, and longer dry periods. More specifically, the California Climate Action Team (CAT) (CAT, 2010) assessment on climate change impacts and adaptation options for California predicted that California could witness the following events:

- Temperature rise between 2.7-10.5°F by the 2070–2100 time period;
- Sea level rise of 11–18 inches by 2050 and 23-55 inches by 2100;
- Drier (by 5 percent or more) than historical average precipitation, with a greater amount of drying in Southern California (with precipitation decreases in some scenarios exceeding 15 percent);
- A decrease in cotton, maize, sunflower, and wheat yields from 3 percent to 8 percent by 2050, and decreased yields for all crops except alfalfa by 2100; and
- An increase in fire risk and estimated burned area increases from 57 percent to 169 percent by 2085.

Risks to public health are also summarized in the CAT assessment (CAT, 2010). As stated above, climate change is predicted to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. This is likely to increase the risk of mortality and morbidity due to heat-related illness on the elderly; individuals with chronic conditions such as heart and lung disease, diabetes, and mental illnesses; infants; the socially or economically disadvantaged; and those who work

outdoors (Jacobson, 2008). The expected increase in temperatures and resulting increases in ultraviolet radiation due to climate change may also likely to exacerbate existing air quality problems.

2.4 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations include schools, hospitals, convalescent homes, child-care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be exposed. In addition to receptors specified in SCAQMD guidance, this analysis also includes residents as potential sensitive receptors. The following receptors were identified as sensitive receptors in vicinity of the proposed Project:

- The proposed Project site is surrounded by adjacent residential receptors to the north and east.
- The closest school is Jean Hayman Elementary School, located approximately 1 mile to the southwest, on Lemon Street.
- The next closest child-care center is Honore Family Childcare, located approximately 1.3 miles to the north, on N. Langstaff Street.
- The closest assisted living facility is Heritage Residential Care, located approximately 0.2 miles to the northeast, on Mariposa Road.
- The closest hospital is the Loma Linda University Medical Center, located approximately 7.5 miles southwest of the proposed Project, on Baxter Road in Murrieta.

2.5 Baseline

The existing land use is undeveloped. No baseline was analyzed under CEQA.

3.0 Regulatory Setting

Sources of air emissions in the SCAB are regulated by USEPA, CARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. The role of each regulatory agency is discussed below.

3.1 Federal Regulations

The Federal Clean Air Act (CAA) of 1963 and its subsequent amendments form the basis for the nation's air pollution control effort. USEPA is responsible for implementing most aspects of the CAA. Basic elements of the act include the NAAQS for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB, in turn, delegates to local air agencies the responsibility of regulating stationary emission sources. In the SCAB, SCAQMD has this responsibility.

State Implementation Plan

For areas that do not attain the NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the State will attain the NAAQS within mandated timeframes. In response to this requirement, SCAQMD develops an Air Quality Management Plan (AQMP) which is incorporated into the SIP. The AQMP is updated every several years in response to NAAQS revisions, USEPA SIP disapprovals, attainment demonstration changes, etc.; each AQMP builds on the prior AQMP. The AQMP is usually a collaborative effort between the SCAQMD, CARB and the Southern California Association of Governments (SCAG).

The most recent AQMP was released in revised draft form in October 2016. The 2016 Draft AQMP focuses on attainment of the ozone and $PM_{2.5}$ NAAQS through the reduction of ozone and $PM_{2.5}$ precursor NOx, as well as through direct control of $PM_{2.5}$. The 2016 Draft AQMP identifies control measures and strategies to demonstrate the region's attainment of the revoked 1997 8-hour ozone NAAQS (80 ppb) by 2024; the 2008 8-hour ozone standard (75 ppb) by 2032; the 2012 annual PM2.5 standard (12 ug/m3) by 2025; the 2006 24-hour PM2.5 standard (35 ug/m3) by 2019; and the revoked 1979 1-hour ozone standard (120 ppb) by 2023.

The 2016 Draft AQMP reported that although population in the SCAG region has increased by more than 20% since 1990, air quality has improved due to air quality control projects at the local, state and federal levels. In particular, 8-hour ozone levels have been reduced by more than 40%, 1-hour ozone levels by close to 60%, and annual PM2.5 levels by close to 55% since 1990 (SCAQMD, 2016).

The USEPA often approves portions and disproves other portions of the each SIP. The 2016 Draft AQMP contains a detailed description of which portions of past AQMPs have been approved by the USEPA as part of the SIP process (SCAQMD, 2016).

Emission Standards for Non-road Diesel Engines (2004)

USEPA established a series of progressively stringent emission standards for new off-road diesel engines, culminating in the Tier 4 Final Rule of June 2004. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006, and the Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards require approximately an additional 90 percent reduction in PM and NOx compared to Tier 3 standards and

were phased in starting with smaller engines in 2008 until all but the very largest diesel engines meet NOx and PM standards in 2015. To meet these standards, engine manufacturers were required to produce new engines with advanced emissions control technologies similar to those already expected for on-road heavy-duty diesel vehicles. These standards apply to the proposed Project's use of construction equipment.

Highway Diesel Fuel Rule (2010)

With this rule, USEPA set sulfur limitations for on-road diesel fuel to 15 as of June 1, 2006.

Emission Standards for On-Road Trucks (2000)

To reduce emissions from on-road, heavy-duty diesel trucks, USEPA established a series of emission standards for new engines starting in 1988. These emission standards regulations have been revised over time, and the latest effective regulation, the 2007 Heavy-Duty Highway Rule, required PM_{10} reductions in 2007 and phased in NOx reductions between 2007 and 2010.

California Optional Low NOx Standards (2014)

Under this project, manufacturers may choose to certify their engines to three optional NOx emission standards: 0.10, 0.05 or 0.02 g/bhp·hr.

Energy Independence and Security Act (2007)

The Energy Independence and Security Act of 2007 was signed into law on December 19, 2007 and includes provisions covering:

- Renewable Fuel Standard (Section 202);
- Appliance and Lighting Efficiency Standards (Section 301–325); and
- Building Energy Efficiency (Sections 411–441).

Additional provisions of the Energy Independence and Security Act address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy projects, and the creation of "green jobs."

The Renewable Fuel Standard is of some relevance to the proposed Project as the regulations require annual increases in biofuels sold – both biodiesel and bioethanol – from the years 2010-2022. By year 2022, the Renewable Fuel Standard will require at least 74 billion gallons of biofuel to be sold in the US, as compared to the 2010 level of approximately 14.5 billion gallons. This act, although not directly relevant to proposed Project activities, serves to highlight the GHG regulatory framework.

Greenhouse Gas Endangerment Finding (2009)

The 2007 U.S. Supreme Court decision (Massachusetts et al. v. Environmental Protection Agency et al., 2007), gave the USEPA the authority to regulate GHGs as air pollutants under the federal CAA.

USEPA and National Highway Traffic Safety Administration (NHTSA) Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards (CAFE) (2010, 2012)

In May 2010 the USEPA in conjunction with the Department of Transportation's NHTSA finalized the Light Duty Vehicle Rule (LDVR) that establishes a national project consisting of GHG emissions standards and CAFE standards for light duty vehicles. LDVR standards first apply to new cars and trucks starting with model year 2012. Although the rule is designed to address GHG emissions, primarily, the fuel economy standards portion of the rule also serves to also reduce criteria pollutant emissions. On August

28, 2012, USEPA and NHTSA expanded the National Project of harmonized GHG and fuel economy standards to model year 2017 through 2025 passenger vehicles. The 2010 and 2012 rules affect proposed Project passenger vehicles and other light duty vehicles.

Emission Standards for Medium and Heavy-Duty Vehicles (2015)

USEPA and the NHTSA proposed rules for the second phase of fuel economy standards for medium and heavy-duty (HDVs) vehicles. The phase two standards call for an 8 to 24 percent increase in fuel efficiency, depending on the vehicle's size and purpose, between the years 2018 and 2027.

3.2 State Regulations and Agreements

California Clean Air Act (1998)

In California, CARB is designated as the responsible agency for all air quality regulations. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a project to attain the CAAQS for O_3, NO_2, SO_2, and CO by the earliest practical date. Because the CAAQS are often more stringent than the NAAQS, attainment of these more stringent CAAQS requires greater emission reductions than what is required to show attainment of the NAAQS. Similar to the federal system, the State requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

Assembly Bill 1807 – Air Toxics Project (1983)

In 1983, Assembly Bill (AB) 1807 established California's Air Toxics Project, a two-phased project for the identification and control of air toxics. During the first phase (identification), CARB and the Office of Environmental Health Hazard Assessment (OEHHA) prepare draft reports on exposure assessment and health assessment. The draft reports are distributed for public review and comment. The reports are then submitted to the independent scientific review panel, which reviews the reports for scientific accuracy and submits its findings to CARB. At a public hearing, the CARB Board decides whether to list the substance as a TAC.

Once CARB identifies a substance as a TAC, it begins the second phase (control) of California's TAC project. In this phase, an assessment is conducted to determine the need for, and degree of, further controls. CARB works with districts and holds public workshops and individual meetings with stakeholders. If appropriate, each air toxic control measure is then adopted by CARB at a public hearing.

Heavy-Duty In-Use Vehicle Regulation (2008 and 2010 Statewide Truck and Bus Regulation)

In December 2008, CARB adopted its Truck and Bus Regulation, which places requirements on in-use HDVs operating throughout the state. Under the Truck and Bus Regulation, existing HDVs are required to be replaced with HDVs meeting the latest NOx and PM Best Available Control Technology (BACT). By January 1, 2021, all model year 2007 trucks are required to meet NOx and PM BACT (i.e., 2010+ USEPA Engine Standards). Model year 2008 and 2009 HDVs must be replaced with 2010+ engines by January 1, 2022, and January 1, 2023, respectively. Amended in 2010, the regulation provided more time for fleets to comply. The amended regulation requires installation of PM retrofits beginning January 1, 2012, and replacement of older trucks starting January 1, 2015. By January 1, 2023, nearly all vehicles would need to have 2010 model year engines or equivalent.

CARB In-Use Off-Road Diesel Vehicle Rule (2010)

In July 2007, CARB adopted a rule that requires owners of off-road mobile equipment powered by diesel engines 25 horsepower or larger to meet the fleet average or BACT requirements for NOx and PM emissions by March 1 of each year. The rule is structured by fleet size: large, medium, and small. Medium-sized fleets receive deferred compliance, and small fleets are exempt from NOx requirements and also get deferred compliance. The original Regulation for In-Use Off-Road Diesel Vehicles was adopted in April 2008. CARB subsequently amended the regulation in 2010 to delay the turnover of Tier 1 equipment for meeting the NOx performance requirements of the regulation, and then to delay overall implementation of the equipment turnover compliance schedule in response to the economic downturn in 2008 and 2009. For purposes of this analysis, the regulation applies to the proposed Project's use of off-road construction equipment.

California Diesel Fuel Regulations (2004 and 2006)

In 2004, CARB set limits on the sulfur content of diesel fuel sold in California for use in on-road and off-road motor vehicles. Under this rule, diesel fuel used in motor vehicles has been limited to 15 ppm since September 1, 2006.

Statewide Portable Equipment Registration Project

CARB's Statewide Portable Equipment Registration Project (PERP) establishes a uniform project to regulate portable engines and portable engine–driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts, as long as the equipment is located at a single location for no more than 12 months. For purposes of this analysis, much of the proposed Project's construction equipment would likely be subject to PERP registration.

Assembly Bill (AB)1493 – Vehicular Emissions of Greenhouse Gases (July 2002)

AB 1493 required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Regulations adopted by CARB apply to 2009 and later model year vehicles. CARB estimated that the regulation will reduce climate change emissions from light duty passenger vehicle fleet by 18 percent in 2020 and 27 percent in 2030.

Governor's Executive Order S-3-05 (June 2005)

EO S-3-05 established statewide GHG emission reduction targets as follows: reduce GHG emissions to 2000 levels by 2010; reduce GHG emissions to 1990 levels by 2020; and reduce GHG emissions to 80 percent below 1990 levels by 2050. EO S-3-05 required state agencies to implement measures to achieve these targets and required the development of a Scoping Plan that reflects these targets. EO S-3-05 also created the CAT, which develops assessment reports on climate change and adaptation options for California.

Governor's Executive Order B-30-15 (April 2015)

EO B-30-15 established a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030. EO B-30-15 requires state agencies to implement measures to achieve these targets and requires the development of a Scoping Plan that reflects these targets.

Assembly Bill (AB) 32 - California Global Warming Solutions Act of 2006, Senate Bill (SB) 32 (2016), Scoping Plan (2008), and Scoping Plan Update (2014)

The California Global Warming Solutions Act of 2006, also known as AB 32, was adopted by California legislature in response to EO S-3-05. AB 32 set the 2020 emission reduction goals of EO S-3-05 into law

and required CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. AB 32 also required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

On December 11, 2008, CARB adopted the AB 32 Scoping Plan, which set forth the framework for facilitating the state's GHG goal as described in EO S-3-05. In 2014, CARB adopted an update to the 2008 Scoping Plan that builds upon the initial Scoping Plan with new strategies and recommendations. The 2008 Scoping Plan and 2014 Scoping Plan Update require that reductions in GHG emissions come from virtually all sectors of the economy and be accomplished from a combination of policies, planning, direct regulations, market approaches, incentives and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources.

SB 32 codified the EO B-30-15 target through 2030 and directed State regulatory agencies to develop rules and regulations to meet the 2030 State target. In 2016, in response to EO B-30-15, CARB released a 2030 draft Target Scoping Plan Update to address the state's mid-term 2030 GHG target. This update is expected to go to CARB's board in late 2016 or early 2017.

California Solar Initiative and Senate Bill 1 (August 2006)

SB 1 directed the Public Utilities Commission and California Energy Commission to expand the California Solar Initiative Project to more customers and required the state's municipal utilities to create their own solar rebate projects. This bill required, beginning January 1, 2011, that a seller of new homes offer the option of a solar energy system to all customers negotiating to purchase a new home constructed on land meeting certain criteria and to disclose certain information.

Governor's Executive Order S-01-07 (January 2007) and Low Carbon Fuel Standards (LCFS) (approved April 2009, effective April 2010)

S-01-07 established the following: 1) a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) a LCFS for transportation fuels. In 2009, CARB approved for adoption the LCFS regulation, which became fully effective in April 2010. The LCFS are intended to reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. Carbon intensity is a measure of the GHG emissions associated with the various production, distribution, and use steps in the "lifecycle" of a transportation fuel.

California Senate Bill 650 (2014)

SB 650 requires the state to develop a strategy to reduce emissions of short-lived climate pollutants (SLCPs). As a result of SB 605, the CARB released its proposed SLCP strategy in April 2016 that describes actions the State proposes to reduce emissions of SLCPs (CARB, 2016).

California Senate Bill 1383 (2016)

SB 1383 requires that by January 1, 2018, the CARB approve and implement a strategy to reduce statewide emissions of SLCP to achieve a reduction in emissions of methane by 40 percent, HFCs 40 percent and black carbon by 50 percent below 2013 levels by the year 2030.

Senate Bill 97 - CEQA Guidelines (August 2007)

SB 97 required that the California Natural Resources Agency coordinate the preparation of amendments to the CEQA Guidelines regarding feasible mitigation of GHG emissions or the effects of GHG emissions.

Pursuant to SB 97, the agency adopted CEQA Guidelines amendments on December 30, 2009. The amendments were approved by the Office of Administrative Law on February 16, 2010, and became effective on March 18, 2010.

With respect to the significance assessment, CEQA Guidelines Section 15064.4, subdivision (b), indicates:

A lead agency should consider the following factors, among others, when assessing the significance of impacts from GHG emissions on the environment:

- The extent to which the project may increase or reduce GHG 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;
- 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 GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an Environmental Impact Report (EIR) must be prepared for the project.

The amendments provide that lead agencies should consider all feasible means of mitigating GHG emissions that substantially reduce energy consumption or GHG emissions. If offsite or carbon offset mitigation measure are proposed, they must be part of reasonable plan of mitigation that the agency itself is committed to implementing. No threshold of significance or any specific mitigation measures are indicated in the Guidelines.

Among other things, the California Natural Resources Agency noted in its public notice for these changes that impacts of GHG emissions should be considered in the context of a cumulative impact, rather than a project impact. The public notice states:

While the Proposed Amendments do not foreclose the possibility that a single project may result in GHG emissions with a direct impact on the environment, the evidence before [California Natural Resources Agency] indicates that in most cases, the impact will be cumulative. Therefore, the Proposed Amendments emphasize that the analysis of GHG should center on whether a project's incremental contribution of GHG emissions is cumulatively considerable.

Assembly Bill 1470 - Solar Hot Water and Efficiency Act (November 2007)

AB 1470 directed the California Energy Commission to establish a 10-year, statewide incentive project to encourage the installation of 500,000 solar water heating systems to offset natural gas usage for water and space heating. The incentives were to be funded by establishing a surcharge on certain natural gas customers.

Senate Bill 375 – Transportation planning: travel demand models: sustainable communities strategy: environmental review (September 2008)

SB 375 provided for a planning process to coordinate land use planning and regional transportation plans and funding priorities in order to help California meet the GHG reduction goals established in AB 32. SB 375 required regional transportation plans, developed by Metropolitan Planning Organizations relevant to the proposed Project area (including the SCAG), to incorporate a sustainable communities

strategy in their regional transportation plans that will achieve GHG emission reduction targets set by CARB. SB 375 also included provisions for streamlined CEQA review for some infill projects such as transit-oriented development.

SB 375 is similar to the Regional Blueprint Planning Project, established by the California Department of Transportation, which provides discretionary grants to fund regional transportation and land use plans voluntarily developed by Metropolitan Planning Organizations working in cooperation with Council of Governments. The Scoping Plan adopted by CARB in December of 2008 relies on the requirements of SB 375 to implement the carbon emissions reductions anticipated from land use decisions.

Governor's Executive Order S-13-08 - California Climate Adaptation Strategy (November 2008)

S-13-08 directed state agencies to develop a strategy for identification and preparation for expected climate change impacts in California. The resulting 2009 California Climate Adaptation Strategy report presents best available science relevant to climate impacts in California and proposes a set of recommendations for California decision makers to assess vulnerability and promote resiliency in order to reduce California's vulnerability to climate change. S-13-08 also ordered the creation of a comprehensive Sea Level Rise Assessment Report, which was completed by the National Academy of Science in 2012. Guidance regarding adaptation strategies is general in nature and emphasizes incorporation of strategies into existing planning policies and processes.

Senate Bill X7-7 - Water Conservation Act (November 2009)

The legislation set an overall goal of reducing per capita urban water use by 20 percent by December 31, 2020. The state is required to make incremental progress toward this goal by reducing per capita water use by 20 percent by the end of 2020. Reduction in water consumption directly reduces the energy necessary and the associated emissions to convene, treat, and distribute the water; it also reduces emissions from wastewater treatment.

Senate Bill X1-2 – Renewable Energy Resources (April 2011)

SBX1-2 directed California Public Utilities Commission's Renewable Energy Resources Project to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20 percent of the total electricity sold to retail customers in California per year by December 31, 2013, 25 percent by December 31, 2016 and 33 percent by December 31, 2020. The new goals apply to all electricity retailers in the state. The Renewable Portfolio Standard preempts the CARB's 33 percent Renewable Electricity Standard.

Title 24: Building Energy Efficiency Standards (Title 24, Part 6) and Green Building Code Standards (Title 24, Part 11)

Building Energy Efficiency Standards (Title 24, Part 6) for new residential and commercial buildings were originally adopted by the California Energy Resources Conservation and Development Commission in June 1977 and most recently revised in 2016. Title 24, Part 6 seeks to ensure that building construction, system design, and installation achieve energy efficiency. Title 24, Part 6 establishes a minimum level of building energy efficiency.

The Green Building Code Standards (Title 24, Part 11) were adopted by the California Building Standards Commission in 2008, and most recently revised in 2016. Title 24, Part 11 seeks to enhance the design and construction of buildings by encouraging sustainable construction practices in planning/design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. Title 24, Part 11 establishes mandatory minimum green building standards to the

planning, design, operation, construction, use and occupancy of newly constructed, residential and nonresidential buildings.

3.3 Regional and Local Plans, Projects and Policies

SCAQMD is primarily responsible for planning, implementing, and enforcing federal and State ambient standards within the SCAB. As part of its planning responsibilities, SCAQMD prepares the AQMP based on the attainment status of the air basins within its jurisdiction. The SCAQMD is also responsible for permitting and controlling stationary source criteria and air toxic pollutants as delegated by USEPA.

Through the attainment planning process, SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The applicable SCAQMD rules to the Project are listed below.

SCAQMD Rule 401 – Visible Emissions

This rule prohibits discharge of air contaminants or other material that are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or that obscure an observer's view.

SCAQMD Rule 402 – Nuisance

This rule prohibits discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; or that endanger the comfort, repose, health, or safety of any such persons or the public; or that cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 – Fugitive Dust

The purpose of this rule is to control the amount of PM entrained in the atmosphere from man-made sources of fugitive dust. Under Rule 403, no person shall conduct active operations without utilizing the applicable best available control measures to minimize fugitive dust emissions. Construction and operation fugitive dust emission sources are subject to this rule, which covers all fugitive dust emissions sources, such as unpaved and paved roads, storage piles, and earthmoving operations.

During construction, best available control measures identified in the rule would be required to minimize fugitive dust emissions from proposed earth-moving and grading activities. These measures would include site watering as necessary to maintain sufficient soil moisture content. Additional requirements apply to operations on a property with 50 or more acres of disturbed surface area, or for any earth-moving operation with a day earth-moving or throughput volume of 5,000 cubic yards or more, three times during the most recent 365-day period. These requirements include submittal of a dust control plan, maintaining dust control records, and designating an SCAQMD-certified dust control supervisor.

SCAQMD Rule 445 – Wood-Burning Devices

This rule prohibits installation of wood-burning fireplaces and stoves in new developments.

SCAQMD Regulation XI – Source Specific Standards

This regulation is composed of several dozen individual rules, many of which are not applicable to the proposed Project. Specific rules that may be applicable include:

SCAQMD Rules 1108 and 1108.1 – Cutback Asphalt and Emulsified Asphalt

The purpose of these rules is to limit the emissions from asphalting activities.

Rule 1113 – Architectural Coatings

This rule limits the VOC contents of paints applied to various surfaces that would be applicable to application of architectural coatings.

Rule 1166 – Volatile Organic Compound Emissions from Decommissioning of Soils

This rule sets requirements to control emissions from excavating, grading, handling, and treating VOC-contaminated soils that may be encountered during construction.

Southern California Association of Governments (SCAG) Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) (2016)

SCAG is the regional planning agency for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Pursuant to SB 375, SCAG developed the RTP/SCS. The primary goal of the RTP/SCS is to increase mobility for the region's residents and visitors; an emphasis on sustainability is included pursuant SB 375. The RTP serves as a long-range transportation plan that is developed and updated by SCAG every four years. The SCS expands upon transportation strategies in the RTP to analyze growth patterns and establish future land use strategies that aid the region in meeting its GHG reduction targets.

The 2012–2035 RTP/SCS contained a regional commitment for the broad deployment of zero- and near-zero emission transportation technologies in the 2023–2035 timeframe and steps to facilitate this objective. 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.

Lake Elsinore Climate Action Plan (2011) (Lake Elsinore, 2011)

The Climate Action Plan (CAP) is the City's plan to reduce local GHG emissions in accordance with State law. The CAP set efficiency-based targets for the years governed by the General Plan to reduce community-wide emissions to 6.6 MT CO2e per service population per year by 2020 (a 22.3% reduction from the 2008 rate of 8.5 MT CO2e/SP) and to 4.4 MT CO2e per service population per year by 2030 (a 48.2% reduction from the 2008 rate of 8.5 MT CO2e/SP). The City deems these targets to be consistent with AB 32.

To meet the emissions reduction targets, the CAP identifies the following key measures: transportation and land use, energy, solid waste, education and outreach, and state-level regulations. State level regulations include the Pavley Regulations, LCFS, heavy/medium duty and passenger vehicle efficiency regulations, and the Renewable Portfolio Standard, discussed in Section 3.2 State Regulations and Agreements.

The CAP is also intended to serve as the programmatic tiering document for the purposes of CEQA, within the City of Lake Elsinore, for GHG emissions, by which applicable projects will be reviewed. If a proposed development project can demonstrate it is consistent with the applicable emissions reduction measures included in the CAP, the projects and standards that would be implemented as a result of the CAP, and the General Plan Update growth projections, the project's environmental review pertaining to GHG impacts may be streamlined as allowed by CEQA Guidelines Sections 15152 and 15183 (Lake

Elsinore, 2011). For reasons discussed in Section 4.2.3, Methodology for Determining GHG Impacts, the CAP was not used as a tiering document in this Study.

4.0 Environmental Consequences

This section presents a discussion of the potential impacts associated with implementation of the proposed Project. CEQA discourages speculation about impacts that are not reasonably foreseeable (CEQA Guidelines Section 15144, 15145) and in these instances, CEQA does not require a worst-case analysis. This Study evaluates the reasonable, foreseeable, direct, indirect, and cumulative environmental impacts of the proposed Project on air quality and GHG resources.

4.1 Significance Thresholds

The State of California has developed guidelines, in Appendix G of the State CEQA guidelines (CCR, 2010), to address the significance of air quality and GHG impacts. The State CEQA guidelines do not identify significance thresholds, instead allowing the lead agencies discretion in how to address and evaluate significance based on the Appendix G guidance. To provide further guidance to local lead agencies regarding determining significance for air quality in CEQA documents, SCAQMD has adopted the criteria, odor and TAC thresholds in Table 4 (SCAQMD, 2015). A project would be considered significant under CEQA if its impacts exceed significance thresholds in Table 4. In addition, a project would be considered significant if it conflicts with or obstructs the implementation of 1) an applicable AQMP or 2) an applicable plan, policy or regulation adopted for the purpose of reducing GHG emissions.

Table 4. CEQA Significance Thresholds

Day Emission Thresholds		
Air Pollutant	**Construction Threshold (lb/day)**	**Operation Threshold (lb/day)**
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Ambient Pollutant Concentration Thresholds		
Air Pollutant	**Ambient Concentration Threshold**	
NO_2 1-hour average 1-hour average Annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (339 µg/m^3) (State) 0.100 ppm (188 µg/m^3)[b] (Federal) 0.03 ppm (57 µg/m^3) (State)	
PM_{10} 24-hour average 24-hour average Annual average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation) 1.0 µg/m^3	
$PM_{2.5}$ 24-hour average	 10.4 µg/m^3 (construction) 2.5 µg/m^3 (operation)	
SO_2 1-hour average 24-hour average	 0.25 ppm (state) & 0.075 ppm (federal – 99thh percentile) 0.04 ppm (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (23,000 µg/m^3) (State) and 35 ppm (federal) 9.0 ppm (10,000 µg/m^3) (State/Federal)	

Toxic Air Contaminants (TAC) and Odor Thresholds	
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment)
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402
Cumulative Threshold[2]	
Criteria Pollutants	Cumulative thresholds are the same as the project-level thresholds, above.
Health Impacts	Cumulative thresholds are the same as the project-level thresholds, above, excepting the Hazard Index threshold, which is 3.0
GHG Threshold [3]	
Commercial/Residential	3,000 Mton/yr CO2e

Notes:
[1] SCAQMD CEQA Thresholds (SCAQMD, 2015).
[2] SCAQMD Potential Control Strategies to Address Cumulative Impacts from Air Pollution White Paper, Appendix D (SCAQMD, 2003).
[3] Executive Order S-3-05 set state-wide goals for GHG reductions through 2050. AB32 established a statewide GHG emissions cap for 2020 based on 1990 GHG emissions. SB32 established a statewide GHG emissions cap for 2030. CA Attorney General's Office has taken the position that GHG emissions are an impact that must be analyzed in CEQA documents and that a conclusion of significance must be made for GHG emission impacts. SCAQMD has developed an approach for GHG significance thresholds for industrial and residential/commercial projects for use by other public agencies. The SCAQMD Board approved the industrial GHG threshold and at that time determined consistency with S-3-05; the residential/commercial GHG threshold has not yet been approved by the SCAQMD Board and remains an interim threshold.
CO2e – CO2 equivalent
Lb/day – pounds per day
Mton/yr – metric tons per year
ppm – parts per million
SP – service population = residential population + employment population
TACs – toxic air contaminants
µg/m3 – micrograms per cubed meter

4.2 Methodology

The proposed Project would result in a variety of construction and operational activities that may affect air quality in the region. This study evaluates air quality and GHG impacts from reasonably foreseeable construction and operational activities. Air pollutant emissions from the proposed construction and operational activities were calculated using emission factors and methods current at the time of the analysis. Emissions were then compared to the thresholds identified in Section 4.1 to determine their significance. For impacts that would exceed a significance criterion, mitigation measures, where feasible, were applied to proposed Project activities to determine their ability to reduce impacts to below the level of significance.

The following land uses and project elements, provided by the project proponent, were considered in this technical study:

- Medium-rise apartment: 81 dwelling units by 2019;
- Parking: 190 spaces; and
- Undegrounding of an existing drainage channel.

4.2.1 Methodology for Determining Construction Impacts

Project construction emissions were estimated for each year, starting in 2017 through 2019, in accordance with the anticipated Project construction schedule in Table 5. The actual construction

schedule may differ from the one used in the analysis, depending on requirements of the project proponent and construction contractor. The schedule used in this Study is intended to result in conservative emission estimates because assumptions reflect an accelerated schedule and early construction years; postponement of construction activities would likely result in lower impacts as increasingly stringent regulatory requirements are implemented than those assumed in the analysis years.

Table 5. Anticipated Construction Schedule

Construction Phase	Start Date	End Date
Demolition	11/28/2017	12/25/2017
Site Preparation	12/26/2017	1/11/2018
Grading	1/12/2018	4/5/2018
Building Construction	4/6/2018	5/2/2019
Paving	5/3/2019	5/28/2019
Architectural Coating	5/29/2019	6/21/2019

Notes:
CCR provided estimated start and end dates for Site Preparation, Grading, and Building Construction.
CalEEMod defaults were used for Demolition, Paving, and Architectural Coating.

California Air Pollution Control Officers Association's (CAPCOA), California Emissions Estimator Model (CalEEMod), version 2016.3.1 was used to quantify emissions from anticipated construction activities. The CalEEMod model is approved by the SCAQMD and is well suited to typical land development projects. CalEEMod uses emission factors for off-road equipment and on-road vehicles using the CARB off-road model and EMFAC2014 model. CalEEMod calculates emissions associated with each construction phase; overlapping phases are added in calculating maximum day emissions for each pollutant. The CalEEMod output is provided in Appendix A.

Project construction activities would require the use of off-road construction equipment and on-road vehicles. These emission sources would use primarily diesel fuel, resulting in combustion exhaust emissions in the form of VOC, CO, NOx, SOx, and PM. Earth-disturbance activities, such as excavation/grading and driving over unpaved surfaces, would also generate PM emissions in the form of fugitive dust. Paving and architectural coating activities would generate VOC emissions. Criteria pollutant emissions were based on the proposed Project's peak day emissions that would occur within SCAB borders and compared to SCAQMD's peak day regional emission thresholds for determination of significance.

Except as noted below, CalEEMod default source type and activity, appropriate to the land size and land were used in the analysis:

- It is anticipated that construction would begin in 2017 and continue through 2019.
- Construction phases in Table 5 would be sequential without overlap.
- Demolition of the drainage channel headworks and rip-rap would generate approximately 60 cubic yards of debris that would be trucked offsite.
- Clearing of vegetation during site preparation would generate approximately 60 cubic yards of waste that would be trucked offsite.

- Approximately 38,000 cubic yards of fill material would be imported via truck during grading. Fill material would be imported from a borrow site, located approximately 2 miles from the Project site.
- Haul trucks would generally have 12 cubic yards capacity.

The SCAQMD developed the Localized Significance Threshold (LST) methodology to assist CEQA lead agencies in analyzing localized air quality impacts from proposed Projects (SCAQMD, 2009). The LST methodology is a screening methodology that allows users to determine, in lieu of conducting a dispersion modeling analysis, if a project would cause or contribute to an exceedance of the NAAQS or CAAQS for each source receptor area (SRA). The LST methodology is based on maximum day allowable emissions, the area of the emissions source, the ambient air quality in each SRA in which the emission source is located, and the distance to the nearest exposed individual. The LST is set up as a series of look-up tables for emissions of NOx, CO, PM_{10}, and $PM_{2.5}$. If proposed construction or operational emissions are below the LST look-up table emission levels then the proposed activity is considered not to violate or substantially contribute to an existing or projected air quality standard. SCAQMD's LST methodology was used in this analysis to evaluate ambient air quality impacts from proposed Project construction. Emissions were compared to the LST thresholds appropriate to the SRA, site acreage and distance to the nearest receptor in order to determine significance. Criteria pollutant emissions, for comparison to SCAQMD's LST thresholds, were based on proposed Project emissions that would occur on the Project site, per SCAQMD policy (SCAQMD, 2009).

The following parameters were selected in determining localized air quality impacts using the LST methodology. These parameters were selected because they would result in conservative (overstating of) impacts:

- 3.5 acres/day was calculated based on CalEEMod grading/site preparation equipment passes.
- The closest sensitive, residential receptor would be within 25 meters to the north and east of the Project construction area. The LST methodology considers 25 meters as the separation distance between a project and a sensitive receptor that would result in greatest impacts; residential receptors located further than 25 meters would experience lower impacts.
- The closest off-site work receptor was conservatively selected to be within 500 meters north of the Project construction area. Off-site work receptors located further than 500 meters would experience lower impacts.

4.2.2 Methodology for Determining Operational Impacts

Proposed Project Emissions

Project operational emissions were estimated for the buildout year 2019. The analysis was based on land uses identified in Section 0,

Methodology, above and described in detail in the Project Description section of the Draft IS/MND.

Similar to the methodology used to determine baseline emissions, CalEEMod was used to quantify emissions from anticipated operational activities. CalEEMod quantifies operational criteria pollutant emissions for the following source types, based on land use designations and size parameters:

- Mobile sources such as residential/visitor vehicles;
- Energy use such as natural gas use; and
- Area sources such as architectural coating, use of consumer products, hearth, and landscaping.

Except as noted below, CalEEMod default source type and activity, appropriate to the land size and land were used in the analysis:

- Area emissions assume all natural gas hearths as an element of the Project.[2]
- Energy emissions assume a 15% exceedance of Title 24 energy efficiency as an element of the Project.[3]

Project emissions were compared to SCAQMD's peak day regional emission thresholds for determination of significance. The CalEEMod output is provided in Appendix A.

Similar to the methodology used to determine localized construction impacts, SCAQMD's LST screening tables were used in this analysis to evaluate the proposed Project's operational impacts on ambient air quality. Operational emissions were compared to the LST thresholds appropriate to the SRA, site acreage and distance to the nearest receptor in order to determine significance. Criteria pollutant emissions, for comparison to SCAQMD's LST thresholds, were based on proposed Project emissions that would occur on the Project site, per SCAQMD policy (SCAQMD, 2009).

The following parameters were selected in determining localized air quality impacts using the LST methodology. These parameters were selected because they would result in conservative (overstating of) impacts:

- Project operations would take place over 5 acres.
- The closest sensitive, residential receptor would be within 25 meters to the north and east of the Project construction area. The LST methodology considers 25 meters as the separation distance between a project and a sensitive receptor that would result in greatest impacts; residential receptors located further than 25 meters would experience lower impacts.
- The closest off-site work receptor was conservatively selected to be within 500 meters north of the Project construction area. Off-site work receptors located further than 500 meters would experience lower impacts.

4.2.3 Methodology for Determining GHG Impacts

CalEEMod was used to estimate GHG emissions from construction and operational activities. Per SCAQMD, construction GHG emissions were amortized over the life of the project and included in the proposed Project's annual GHG emissions totals. For the purposes of determining GHG impacts under CEQA, SCAQMD defines 'life of the project' as 30 years for industrial projects and proposes the same duration for commercial and residential projects. Although the proposed Project is expected to exist for longer than 30 years, this analysis assumed 30-year duration. This assumption is conservative because amortization of construction emissions over 30 years would result in higher annual GHG emissions than amortization over a longer duration. Impacts were determined by comparing the combined amortized construction and future annual operational emissions with the significance threshold.

In addition to the GHG emissions associated with direct sources identified in Section 4.2.2, CalEEMod also quantifies indirect GHG emissions (emissions generated off-site as a result of the proposed Project). Indirect emissions quantified in CalEEMod include the following:

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[2] This assumption is supported by SCAQMD Rule 445, which prohibits installation of wood-burning fireplaces and stoves in new developments.

[3] This assumption is supported by the City of Lake Elsinore Climate Action Plan, Measure E-1.3: Energy Efficient Building Standards.

- Electricity and natural gas;
- Water conveyance; and
- Waste disposal.

Except as noted below, CalEEMod default source type and activity, appropriate to the land size and land were used in the analysis:

- Area emissions assume all natural gas hearths as an element of the Project.[4]
- Energy emissions assume a 15% exceedance of Title 24 energy efficiency as an element of the Project.[5]
- Water purveying/treatment emissions assume a 30% reduction in indoor water use[6].
- Southern California Edison was assumed to be the electricity purveyor. GHG intensity for Southern California Edison was obtained from CalEEMod and was used to quantify indirect GHG emissions associated with anticipated proposed Project electricity use.

Project GHG emissions were compared to SCAQMD's GHG threshold for determination of significance. The CalEEMod output is provided in Appendix A.

GHG impacts in relation to global climate change are, by nature, cumulative impacts; therefore no separate cumulative impacts analysis is required.

4.3 Impact Determination – Proposed Project

Impact AQ-1: Proposed Project construction would not produce emissions that exceed an SCAQMD significance threshold.

Table 6 summarizes the unmitigated regional peak day emissions associated with construction of the proposed Project. The table shows that all pollutant emissions would be below SCAQMD significance thresholds. No mitigation is required. CalEEMod output in Appendix A presents a breakdown of construction emissions by construction activity.

Table 6. Peak Daily Construction Emissions

Source Category	PM10 Exhaust (lb/day)	PM10 Fugitive Dust (lb/day)	PM10 total (lb/day)	PM2.5 total (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
Construction 2017	3	18	21	13	53	0	24	5
Significance Threshold	na	na	150	55	100	150	550	75
Significant?	na	na	**No**	**No**	**No**	**No**	**No**	**No**
Construction 2018	3	18	21	12	49	0	23	5
Significance Threshold	na	na	150	55	100	150	550	75
Significant?	na	na	**No**	**No**	**No**	**No**	**No**	**No**
Construction 2019	1	1	2	2	24	0	21	30
Significance Threshold	na	na	150	55	100	150	550	75

[4] This assumption is supported by SCAQMD Rule 445, which prohibits installation of wood-burning fireplaces and stoves in new developments.

[5] This assumption is supported by the City of Lake Elsinore CAP, Measure E-1.3: Energy Efficient Building Standards.

[6] This assumption is supported by the City of Lake Elsinore CAP, Measure E-4.2, Indoor Water Conservation Requirements.

Source Category	PM10 Exhaust (lb/day)	PM10 Fugitive Dust (lb/day)	PM10 total (lb/day)	PM2.5 total (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
Significant?	na	na	**No**	**No**	**No**	**No**	**No**	**No**
Notes: Emissions might not add precisely due to rounding. CEQA baseline for construction is zero.								

Impact AQ-2: Proposed Project construction would not result in offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance after mitigation.

Table 7 summarizes the unmitigated onsite peak daily emissions associated with construction of the proposed Project. The table shows that PM_{10} and $PM_{2.5}$ would exceed the significance thresholds for residential receptors in 2017 and 2018. Although compliance with Rule 403 is assumed as part of the Project, exceedances would be driven by fugitive dust during site preparation and grading activities.

Table 7. Localized Peak Daily Construction Emissions - Unmitigated

	Peak Day Emissions (lb/day) – Residential						Peak Day Emissions (lb/day) – Off-Site Workers					
Year	PM10 exhaust	PM10 fugitive	PM10 total	PM2.5 total	NO2	CO	PM10 exhaust	PM10 fugitive	PM10 total	PM2.5 total	NO2	CO
2017 Total Onsite Emissions	2.9	18.1	20.9	12.6	52.3	23.5	2.9	18.1	20.9	12.6	52.3	23.5
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**Yes**	**Yes**	**No**	**No**			**No**	**No**	**No**	**No**
2018 Total Onsite Emissions	2.6	18.1	20.6	12.3	48.2	22.5	2.6	18.1	20.6	12.3	48.2	22.5
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**Yes**	**Yes**	**No**	**No**			**No**	**No**	**No**	**No**
2019 Total Onsite Emissions	1.3	0.0	1.3	1.2	21.1	17.2	1.3	0.0	1.3	1.2	21.1	17.2
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**No**	**No**	**No**	**No**			**No**	**No**	**No**	**No**
Notes: SCAQMD LST look-up tables were used to estimate localized impacts based on the following: 1) daily disturbed area of 3.5 acres; 2) 25 meter separation distance to the closest residential/sensitive receptor to the north and east; 3) 500 meter separation distance to the closest offsite worker receptor north of Malaga Road; 4) Source Receptor Area 25.												

Mitigation Measures

Mitigation Measure 1: Exposed areas, during site preparation and grading, will be watered 4 times per day in an 8-hour day, resulting in fugitive dust reduction of approximately 74% percent from uncontrolled levels (WRAP, 2006). This mitigation measure would reduce fugitive emissions of PM_{10} and $PM_{2.5}$.

Mitigation Measure 2: 50% of equipment used during site preparation and grading activities will be equipped with engines that meet the USEPA Tier 4 Final Emission Standards, which reduce pollutant emissions.[7] This mitigation measure would reduce exhaust emissions of PM_{10} and $PM_{2.5}$.

Residual Impacts

Table 8 summarizes the onsite peak daily emissions associated with construction of the proposed Project following mitigation. The table shows that PM_{10} and $PM_{2.5}$ impacts would be reduced below the level of significance.

Table 8. Localized Peak Daily Construction Emissions - Mitigated

	Peak Day Emissions (lb/day) - Residential						Peak Day Emissions (lb/day) – Off-Site Workers					
Year	PM10 exhaust	PM10 fugitive	PM10 total	PM2.5 total	NO2	CO	PM10 exhaust	PM10 fugitive	PM10 total	PM2.5 total	NO2	CO
2017												
Total Onsite Emissions	1.6	4.7	6.2	4.0	29.8	22.2	1.6	4.7	6.2	4.0	29.8	22.2
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**No**	**No**	**No**	**No**			**No**	**No**	**No**	**No**
2018												
Total Onsite Emissions	1.4	4.7	6.1	3.8	25.6	21.7	1.4	4.7	6.1	3.8	25.6	21.7
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**No**	**No**	**No**	**No**			**No**	**No**	**No**	**No**
2019												
Total Onsite Emissions	1.1	0.0	1.1	1.0	18.5	17.2	1.1	0.0	1.1	1.0	18.5	17.2
LST Threshold	na	na	10	6	303	1,533	na	na	197	98	1,007	27,334
Significant?			**No**	**No**	**No**	**No**			**No**	**No**	**No**	**No**

Notes:
SCAQMD LST look-up tables were used to estimate localized impacts based on the following: 1) daily disturbed area of 3.5 acres; 2) 25 meter separation distance to the closest residential/sensitive receptor to the north and east; 3) 500 meter separation distance to the closest offsite worker receptor north of Malaga Road; 4) Source Receptor Area 25.

Mitigation:

2 times per hour watering interval - 74% dust mitigation from uncontrolled (WRAP, 2006).

USEPA Tier 4 Final engines on 50% of rubber-tired dozers and tractors/loaders/backhoes.

Impact AQ-3: Proposed Project operation would not produce emissions that exceed an SCAQMD significance threshold.

Table 6 summarizes the unmitigated regional peak day emissions associated with operation of the proposed Project. The table shows that all pollutant emissions would be below SCAQMD significance thresholds. No mitigation is required. CalEEMod output in Appendix A presents a breakdown of construction emissions by construction activity.

[7] USEPA Tier 4 Final Emissions Standard requires that newly-manufactured off-road engines meet emission limits set forth by the USEPA for engines manufactured between 2008 and 2014. Emission requirements and associated reductions vary by engine size. CARB sets engine-fleet requirements for in-use engines.

Table 9. Peak Day Operational Emissions

Source Category	PM10 Exhaust (lb/day)	PM10 Fugitive Dust (lb/day)	PM10 total (lb/day)	PM2.5 total (lb/day)	NOX (lb/day)	SOX (lb/day)	CO (lb/day)	VOC (lb/day)
Buildout Year 2019								
Area Emissions	0	0	0	0	1	0	7	2
Energy Emissions	0	0	0	0	0	0	0	0
Mobile Emissions	0	4	4	1	6	0	15	1
Total 2019	**0**	**4**	**4**	**1**	**8**	**0**	**22**	**3**
Significance Threshold	na	na	150	55	55	150	550	55
Significant?	na	na	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

Emissions might not add precisely due to rounding. CEQA baseline for operations is zero.
Area emissions account for all natural gas hearths as project element. Energy emissions account for exceedance of Title 24, per City CAP, as project element.

Impact AQ-4: Proposed Project operation would not result in offsite ambient air pollutant concentrations that exceed any of the SCAQMD thresholds of significance.

Table 10 summarizes the unmitigated onsite peak daily emissions associated with operation of the proposed Project. The table shows that all pollutant emissions would be below LST thresholds. No mitigation is required.

In addition, projects that increase on-road traffic may also have the potential to contribute to CO "hot spots". A CO hot spot is an ambient CO concentration associated with traffic emissions that exceeds an ambient air quality standard in close proximity to an intersection. The SCAQMD recommends that a local CO hotspot analysis be conducted if the intersection meets one of the following criteria: 1) the intersection would operate at a level of service (LOS) D or worse and where the project increases the volume to capacity ratio by 2 percent, or 2) the project decreases LOS at an intersection from C to D. Based on the traffic impact analysis (Linscott, Law & Greenspan Engineers, 2017) the proposed Project would not cause any of the surrounding intersections to operate at LOS D or worse. Therefore, the proposed Project would not generate CO hotspots. No mitigation is required.

Table 10. Localized Peak Daily Operational Emissions

	Peak Day Emissions (lb/day) - Residential Receptors				Peak Day Emissions (lb/day) - Offsite Worker Receptors			
Year	PM10	PM2.5	NO2	CO	PM10	PM2.5	NO2	CO
Buildout Year 2019								
Area Emissions	0.1	0.1	1.3	7.2	0.1	0.1	1.3	7.2
Energy Emissions	0.0	0.0	0.3	0.1	0.0	0.0	0.3	0.1
Total 2019	**0.2**	**0.2**	**1.6**	**7.4**	**0.2**	**0.2**	**1.6**	**7.4**
LST Threshold	4	2	371	1,965	50	26	1,072	29,256
Significant?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Notes:

	Peak Day Emissions (lb/day) - Residential Receptors				Peak Day Emissions (lb/day) - Offsite Worker Receptors			
Year	PM10	PM2.5	NO2	CO	PM10	PM2.5	NO2	CO
SCAQMD LST look-up tables were used to estimate localized impacts based on the following: 1) area of 5 acres; 2) 25 meter separation distance to the closest residential/sensitive receptor; 3) 500 meter separation distance to the closest offsite worker receptor; Source Receptor Area 25. Area emissions account for natural gas hearths as project element. Energy emissions account for exceedance of Title 24, per City CAP, as project element.								

Impact AQ-5: Proposed Project activities would not create an objectionable odor at the nearest sensitive receptor pursuant to SCAQMD Rule 402.

Proposed Project activities would generate air pollutants due to the combustion of diesel fuel and asphalting activities during construction. Some individuals may sense that diesel combustion and evaporative emissions are objectionable, although there is no approved method of quantifying the odor impacts of these emissions to the public. In addition, SCAQMD Rules 1108 and 1108.1 limit the amount of VOCs in cutback asphalt and emulsified asphalt products sold within the air district, further reducing the potential for odor impacts. Emissions associated with construction activities would be dispersed over the construction site, would be short-term and transient. No mitigation is required.

Operation of the proposed Project would be primarily residential and recreational, would not involve agriculture, heavy industrial processes or other uses identified SCAQMD's 1993 CEQA Handbook as having the potential for substantial odors. No mitigation is required.

Impact AQ-6: Proposed Project emissions would not expose the public to significant levels of TACs.

Impacts to sensitive receptors are typically evaluated in terms of exposure to TACs. Sensitive receptors associated with the proposed Project are described in Section 2.4, Sensitive Receptors. Proposed Project construction activities would result in short-term emissions of DPM from the combustion of diesel fuel in offroad construction equipment engines and onroad trucks. CARB classifies DMP as a TAC and uses PM_{10} emissions from diesel exhaust as a surrogate for DPM. Operation of the proposed Project would be primarily residential and recreational, would not involve heavy industrial processes associated with TACs or land uses associated with heavy diesel transportation.

Health effects from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. The proposed project construction period of approximately 17 months would be much less than the 30 years used for risk determination. With mitigation, the maximum daily on-site DPM emissions (as PM_{10} exhaust) would be less than 2 pounds per day during construction activities and the proposed Project would not exceed SCAQMD's localized significance thresholds for PM_{10} or $PM_{2.5}$, as shown in Table 8.

Operation of the proposed Project would consist of residential and recreational activities, not typically associated with substantial TAC emissions. The maximum daily on-site DPM emissions (as PM_{10} exhaust) would be less than 0.5 pounds per day during operation and the proposed Project would not exceed SCAQMD's localized significance thresholds for PM_{10} or $PM_{2.5}$, as shown in Table 10. The proposed Project would not expose sensitive receptors to substantial TAC emissions. No mitigation is required.

Impact AQ-7: Proposed Project operations would not conflict with or obstruct implementation of an applicable AQMP.

Construction and operation of the proposed Project would produce emissions of nonattainment pollutants primarily from diesel combustion equipment and fugitive dust during construction and from on-road automobiles during operation.

The AQMP proposes emission-reduction measures that are designed to bring the SCAB into attainment of the CAAQS and NAAQS. Because AQMP attainment strategies include mobile source control measures and clean fuel projects that are enforced at the state and federal levels on engine manufacturers and petroleum refiners and retailers, proposed Project activities would comply with these control measures. SCAQMD also adopts AQMP control measures into the SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Compliance with these requirements would further ensure that the proposed Project's activities would not obstruct implementation of the AQMP.

Growth projections from general city plans are provided to the SCAG, which develops regional growth forecasts. SCAG's regional growth forecasts are then used to develop future air quality forecasts for the AQMP. Therefore, developments consistent with the growth projections in the City's General Plan are considered to be consistent with the AQMP. The proposed Project would be consistent with growth projections of the General Plan as discussed in Section X, Land Use Planning of the Initial Study.

In addition, the proposed Project is less than 500 units and is therefore not considered regionally significant by SCAG under CEQA (CCR, Section 15206). Because the proposed Project is not regionally significant, changes in the population, housing, or employment growth projections do not have the potential to substantially affect SCAG's demographic projections and therefore the assumptions in SCAQMD's AQMP. The proposed Project would not conflict with or obstruct implementation of an applicable AQMP. No mitigation is required.

Impact AQ-8: The Proposed Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.

Cumulative impacts may result from individually minor but collectively significant projects. CEQA Guidelines §15355 define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." CEQA Guidelines §15064(h)(4) also state that "The mere existence of cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed Project's incremental effects are cumulatively considerable."

SCAQMD has developed a policy to address the cumulative impacts of CEQA projects (SCAQMD, 2003). The policy holds the cumulative threshold to be the same as the project-level threshold and indicates that project impacts are cumulatively considerable if they exceed the project-specific air quality significance thresholds. SCAQMD, in CEQA documents for which it is the lead agency, uses a zone of influence of 1 mile from the proposed project for ambient pollutants and 500 feet for TACs (SCAQMD, 2014b; CARB, 2005).[8] In accordance with SCAQMD's policy, this cumulative impact analysis considers related projects or projects causing related impacts within a geographic scope of 1 mile from the proposed project for ambient air pollutants and 500 feet for TACs.

A list of cumulatively relevant projects is included in the traffic impact analysis and is included here by reference (Linscott, Law & Greenspan Engineers, 2017). The list includes known and foreseeable projects that are anticipated to contribute emissions to the SCAB in the vicinity and concurrently with

[8] SCAQMD reasons that impacts to most air quality impacts are local in nature, no more than 1 mile, whereas impacts from exposures to TACs decline by approximately 90% at 300 to 500 feet from the emissions source (CARB, 2005).

the Project's construction and operation. Of the projects identified in the traffic impact analysis, projects identified in Table 11 would be located within the zone of influence, per SCAQMD.

Table 11. List of Cumulatively Relevant Projects

Related Project	Location	Description
Diamond Stadium Indoor Sports Park	Northwest corner of Pete Lehr Drive and Diamond Drive. (0.6 miles northwest)	Development of a 600,000 square-foot, split level, indoor sporting arena on 19-23 acres. Construction is expected to begin in early 2017 and to be completed by spring of 2018. Operation is expected in Spring 2018.
Artisan Alley	Northeast corner of Diamond Drive and Malaga Road (0.6 miles northwest)	Development of a 95,000 square-foot commercial, shopping and entertainment. Would include craft breweries and restaurants and a 140-room hotel. Construction is expected to begin in 2017 and complete in 2018. Operation is expected in 2018.
Summerly (McMillan Homes)	Diamond Drive and Malaga Road (0.6 miles northwest)	Development of 250 single-family residences. Constructed and operating.
Source: List of related projects is from the Traffic Impact Analysis (Linscott, Law & Greenspan Engineers, 2017).		

The ambient air quality of the SCAB provides a summary of the cumulative air quality impacts in the region. The proposed Project is located in the SCAB, which is currently in nonattainment with Federal and/or State standards for ozone, PM_{10}, and $PM_{2.5}$. As described in Section 2.2, air quality in the SCAB has improved in the last several decades. The improvement in air quality can be attributed to emission reduction from industrial sources, introduction of low emission fuels used in on-road motor vehicles (e.g., low sulfur fuels, reformulated gasoline, LCFS, etc.), and implementation of the AQMPs, which develop emission reduction strategies that are subsequently promulgated as enforceable regulations.

As described in Section 2.2.3, health impacts have also declined in the SCAB as a result of federal, state and local regulations. SCAQMD's 2015 MATES IV study reported a SCAB-wide decrease of 57% from the previous MATES III study, despite continuing population growth. According to MATES IV, the background cancer risk in the Project area is approximately 360 per million.

Contributions of Cumulatively Relevant Projects

Cumulatively relevant projects, identified in Table 11, could contribute to an existing or projected air quality exceedance because the SCAB is currently in nonattainment for ozone, PM_{10}, and $PM_{2.5}$.

It should be noted that regional impacts associated with cumulatively relevant projects are not necessarily additive as they are unlikely to occur on the same day. Similarly, localized impacts associated with related projects are also not necessarily additive, as they are unlikely to occur on the same day or impact the same sensitive receptor.

Contributions of the Proposed Project

The proposed Project would contribute to impacts from cumulatively related projects and to the existing pollution burden in SCAB. Per SCAQMD's policy, impacts from the proposed Project would be cumulatively considerable if they exceed the project-specific air quality significance thresholds in Table 4.

Construction emissions associated with the proposed Project are presented in Table 6 and Table 8. Table 6 shows that criteria pollutant emissions would not exceed regional significance thresholds. Table 8 shows that criteria pollutant emissions would not exceed localized significance thresholds following mitigation.

Operational emissions associated with the proposed Project are presented in Table 9 and Table 10. Table 9 shows that criteria pollutant emissions would not exceed regional significance thresholds. Table 10 shows that criteria pollutant emissions would not exceed localized significance thresholds.

Operation of the proposed Project would consist of residential and recreational activities, not typically associated with substantial TAC emissions. The maximum daily on-site DPM emissions (as PM_{10} exhaust) would be less than 0.5 pounds per day during operation and the proposed Project would not exceed SCAQMD's localized significance thresholds for PM_{10} or $PM_{2.5}$, as shown in Table 10. The proposed Project would not expose sensitive receptors to substantial TAC emissions.

Construction and operational emissions would therefore not result in a cumulatively considerable contribution to impacts from related projects and to the existing pollution burden in the SCAB. No mitigation is required.

Impact GHG-1: Proposed Project construction and operational would not produce GHG emissions that, either directly or indirectly, exceed SCAQMD's proposed threshold.

GHG emissions, associated with the proposed Project, would occur from direct sources such the use of mobile vehicles by residents, employees and visitors; and area sources such as hearths, consumer products, architectural coatings, and landscape equipment. GHG emissions would also occur from indirect sources, such as the use of electricity and natural gas, water conveyance and wastewater treatment, and waste disposal.

CalEEMod was used to quantify construction and operational emissions. The following City CAP measures were included as part of the proposed Project's design:

- CAP Measure E-1.3, Energy Efficient Building Standards. This measure requires all development projects, after 2020, to achieve 15% energy efficiency above Title 24.
- CAP Measure E-4.2, Indoor Water Conservation Requirements. This measure all requires development projects, after 2020, to reduce indoor water consumption by 30%.

Appendix A presents CalEEMod output, which also includes input parameters used in calculations.

Table 12 summarizes unmitigated amortized construction and operation GHG emissions and shows that GHG emissions would be driven by the use of mobile vehicles. The table shows that GHG emissions would be below the SCAQMD threshold. No mitigation is required.

Table 12. Annual GHG Emissions

Source Category	CO2 (mty)	CH4 (mty)	N2O (mty)	CO2e (mty)
Construction				
2017	45	0	0	45
2018	526	0	0	529
2019	188	0	0	188
Amortized Annual Construction	19	0	0	25
Annual Operation	1,083	1	0	1,100
Total Annual GHG Emissions	**1,102**	**1**	**0**	**1,126**
Significance Threshold				3,000
Significant?				**No**

Notes:

Emissions might not add precisely due to rounding.

CEQA baseline is zero.

Construction emissions were amortized over 30 years.

Total annual GHG emissions are the sum of amortized construction and annual operational emissions.

Area emissions account for natural gas hearths as project element.

Energy emissions account for exceedance of Title 24, per City CAP, as project element.

Impact GHG-2: Plan Consistency

In 2006, California adopted AB 32, which requires the state to reduce statewide GHG emissions to 1990 levels by 2020, a reduction target that was introduced in EO S-3-05. In 2016, California adopted SB 32, which requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was introduced in EO B-30-15. Section 3.2, State Regulations and Agreements presents a discussion of EO S-3-05, EO B-30-15, AB 32, and SB 32.

AB 32 and SB 32 codified state targets and directed State regulatory agencies to develop rules and regulations to meet the targets; AB 32 and SB 32 do not stipulate project-specific requirements. Specific requirements are codified in rules and regulations developed by regulatory agencies such as CARB and SCAQMD, and local City actions such as the City CAP.

The City's CAP, adopted in 2011, certified that the City's target is consistent with AB 32's 2020 goals. The City CAP ensures that the City will be providing local GHG reductions that will complement state efforts to reduce GHG emissions to the AB 32 target. The proposed Project would not conflict with the applicable CAP reduction measures, as shown in Table 13. In addition to CAP requirements, Table 13 also discusses other plans and policies which may be considered related, although not directly applicable, to the proposed Project.

The City's CAP was developed prior to SB 32. Therefore, although the City's CAP was developed with a horizon year of 2030, the CAP does not provide assurance that the City will provide local GHG reductions that will complement state SB 32 efforts through 2030. In addition, the CAP does not address targets past 2030. Notwithstanding, it should be noted that the reliance on CAP measures would not end in 2030 and continuation of these measures would continue to provide GHG reductions.

Table 13. Evaluation of Plans, Policies or Regulations Adopted for the Purpose of GHG Reduction

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
AB 32 2008 Scoping Plan, and 2014 Scoping Plan Update		
The AB32 2008 Scoping Plan set a Statewide roadmap for achieving the following AB 32 State targets: (1) Year 2000 levels by 2010; and (2) Year 1990 levels by 2020. The 2014 AB32 Scoping Plan Update build upon the 2008 Scoping Plan with new strategies to achieve the following AB32 State target: Year 1990 levels by 2020. ARB released a draft 2030 Target Scoping Plan in April 2016, and is expecting a final version go to its board in 2017.	The Scoping Plan and Plan Update include general recommendations to reduce GHG emissions. Not directly applicable to the proposed Project.	The AB 32 2008 Scoping Plan outlines the State's strategy to achieve the 2020 GHG emission reduction target via a set of recommended measures. The implementation of these measures relies on actions on the part of state agencies and local governments, not individual projects. Actions include, but are not limited to, development and implementation of rules, market projects, zero-emission projects, renewable fuel standards, LCFS, vehicle efficiency measures, energy efficiency projects, green building strategies, market-based mechanisms, incentive measures, as well as land use planning and permitting. The Scoping Plan's reduction actions do not identify specific project-level measures. No elements of the proposed Project would conflict with the Scoping Plans. The AB 32 2014 Scoping Plan Update builds upon the 2008 Scoping Plan with additional strategies and recommendations. In the 2014 AB 32 Scoping Plan Update, ARB identified that the State had adopted sufficient laws and regulations to achieve the AB 32 2020 target. Therefore, projects that comply with regulations are also consistent with AB 32. The proposed Project analysis has quantified GHG impacts. The proposed Project would comply with existing regulations, applicable to project activities, and would, by law, comply with future regulatory requirements, applicable to project activities, developed as part of the Scoping Plan. The proposed Project would therefore, not preclude the State's implementation of the AB 32 Scoping Plan or Plan Update.
CCR Title 24, Part 6 – Building Energy Efficiency Standards		
	Applicable	The Building Energy Efficiency Standards for new residential and commercial buildings seek to ensure that building construction, system design, and installation achieve energy efficiency. The proposed Project would not conflict with the Building Energy Efficiency Standards, pursuant to the City's Municipal Code and as part of the conditions set forth in the building permit. The Building Energy Efficiency Standards are also subsumed in the City's CAP, Measure E-1-3.
CCR Title 24, Part 11 – Green Building Code Standards		

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
	Applicable	The Green Building Code Standards were developed in response to AB 32. The Standards establish mandatory green building construction standards. The proposed Project would not conflict with the Green Building Code Standards, pursuant to the City's Municipal Code and as part of the conditions set forth in the building permit. The Green Building Code Standards are subsumed in the City's CAP, Measure E-1.3.
City of Lake Elsinore 2011 CAP		
Transportation and Land Use Measures		
Measure T-1.1: Safe Routes to School	Not Applicable	This measure directs the City to continue to pursue and utilize grant funding when needed to construct safe pedestrian and bicycle routes within a two mile radius of schools. This measure is implemented by the Department of Public Works through policy development. No elements of the proposed Project would conflict with this measure.
Measure T-1.2: Pedestrian Infrastructure	Applicable	This measure requires the installation of sidewalks along new and reconstructed streets and sidewalks or paths to internally link all uses and provide connections to neighborhood activity centers, major destinations, and transit facilities contiguous with the project site. This measure is implemented by the Department of Public Works and Building Department through policy development, development review, and conditions of approval. The proposed Project would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.3: Street and Sidewalk Maintenance and Improvements	Not Applicable	This measure directs the City to preserve the pedestrian and bicycle circulation system by annually identifying and scheduling street and sidewalk improvement and maintenance projects. This measure is implemented by the Department of Public Works through capital improvement programs. No elements of the proposed Project would conflict with this measure.
Measure T-1.4: Bicycle Infrastructure	Applicable	This measure requires new developments to implement and connect to the network of Class I, II and III 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. This measure is implemented by the Department of Public Works and Building

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		Department through policy development, development review, and conditions of approval. The proposed Project would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.5: Bicycle Parking Standards	Applicable	This measure requires the City to enforce short-term and long-term bicycle parking standards for new non-residential developments. This measure is implemented by the Department of Public Works and Building Department through development review and conditions of approval. The proposed Project would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-1.6: Public Transit Incentives	Not applicable	This measure requires the City to coordinate with the Riverside Transit Agency to implement regional transit strategies, expand transit routes, and provide public transit incentives to residents and employees, such as free or reduced-cost monthly transit passes. This measure is implemented by the Department of Planning and Public Works through regional coordination, outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure T-2.1: Designated Parking for Fuel-Efficient Vehicles	Applicable	This measure requires new non-residential developments to designate 10% of total parking spaces for low-emitting, fuel-efficient vehicles. This measure is implemented by the Department of Planning, Public Works and Building through development review and conditions of approval. The proposed Project would be required to comply with conditions of approval imposed by the City. As such, the proposed Project would not conflict with this measure.
Measure T-3.1: Mixed-Use, High Density, Infill and Transit Oriented Development	Not applicable	This measure requires the City to revise the Land Use Map and Municipal Code to allow for and/or increase the amount of mixed use, high density, infill and transit oriented development. This measure is implemented by the Planning Department through the General Plan and Municipal Code Update process. No elements of the proposed Project would conflict with this measure.
Measure T-3.2: Mixed-Use, Infill, and Transit Oriented Development Incentives	Not applicable	This measure requires the City to identify and provide incentives to promote mixed-use, infill and transit oriented development, such as: a streamlined permitting process, less restrictive parking requirements, less restrictive height limits, lower

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		permit fees and/or reduced impact fees. This measure would be implemented by the Department of Public Works through education and outreach. No elements of the proposed Project would conflict with this measure.
Measure T-3.3: Density Bonus Incentive	Not applicable	This measure allows for a Density Bonus Incentive for a residential project that is located within 1,500 feet of a regular bus stop or rapid transit system stop; is located within a quarter mile from a public park or community center; or is located within a half mile from school grounds/facilities open to the general public, a full-service grocery store, hospital, medical clinic, or pharmacy. This measure is implemented by the Department of Planning through updates to the General Plan and the Municipal Code. No elements of the proposed Project would conflict with this measure.
Measure T-3.4: Neighborhood Commercial Centers	Not Applicable	This measure requires the City to identify potential neighborhood commercial center sites and rezone identified areas to Neighborhood Commercial. This measure is implemented by the Department of Planning through updates to the General Plan and the Municipal Code. No elements of the proposed Project would conflict with this measure.
Measure T-4.1: Commute Trip Reduction Program	Not Applicable	This measure requires the City to institute a commute trip reduction program for employers with fewer than 100 employees. This measure is implemented by the Department of Planning through amendment to the Municipal Code. The proposed Project is residential in nature. No elements of the proposed Project would conflict with this measure.
Measure T-5.1: Hybrid and Fuel-Efficient Vehicle Incentives	Not applicable	This measure encourages the replacement of inefficient vehicles with hybrids, plug-in electric, and other low- and zero-emissions vehicles by connecting residents and businesses with technical and financial assistance through the City's website. This measure is implemented by the Department of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure T-5.2: Municipal Fleet Vehicle Purchasing Policy	Not applicable	This measure requires the City to develop and adopt a low and zero-emissions replacement/purchasing policy for new and replaced official City vehicles and equipment. This measure is implemented by the Department of Public Works through the municipal purchasing policy. No elements of the proposed Project would conflict with this measure.

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Energy Measures		
Measure E-1.1: Tree Planting Requirements	Applicable	This measure requires new developments to plant at minimum one 15-gallon nondeciduous, umbrella-form tree per 30 linear feet of boundary length near buildings. This measure is implemented by the Departments of Planning, Public Works, and Parks and Recreation through City ordinance, development review process, and conditions of approval. The proposed Project would be required to comply with the City ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-1.2: Cool Roof Requirements	Applicable	This measure requires new non-residential development to use roofing materials having solar reflectance, thermal emittance or Solar Reflectance Index consistent with CalGreen Tier 1 values. This measure is implemented by the Departments of Planning and Building through City ordinance, development review process, and conditions of approval. The proposed Project, although residential, would also include nonresidential elements such as a community center. The proposed Project would be required to comply with the City ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-1.3: Energy Efficient Building Standards	Applicable	This measure requires that new construction exceed the California Energy Code requirements, based on the 2008 Energy Efficiency Standards by 15% by 2020, through either the performance based or prescriptive approach described in the California Green Building Code. This measure is implemented by the Departments of Planning, Public Works, and Building through City ordinance, development review process, and conditions of approval. The proposed Project would be required to comply with the City ordinances and conditions of approval. As such, the proposed Project would not conflict with this measure. The proposed Project was analyzed with this measure.
Measure E-2.1: Energy Efficiency Upgrades and Retrofits	Not applicable	This measure facilitates voluntary energy efficiency upgrades and retrofits in existing residential, commercial and industrial buildings by connecting residents and businesses with technical and financial assistance through the City website. This measure is implemented by the Departments of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Measure E-2.2: Green Business Certification Program	Not applicable	This measure establishes and administers a voluntary Green Business Certification Program to recognize businesses that voluntarily develop and implement energy conservation programs, including energy efficiency improvements, energy-efficient heating and cooling systems, and co-generation systems (e.g., solar energy arrays). This measure is implemented by the Departments of Planning and Public Works through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Measure E-2.3: Compact Fluorescent Light Bulb Distribution Program	Not applicable	This measure requires the City to partner with Southern California Edison or a local business to sponsor a CFL distribution program and distribute at least 4,000 CFLs. This measure is implemented by the Department of Planning through program implementation. No elements of the proposed Project would conflict with this measure.
Measure E-3.1: City HVACs	Not applicable	This measure requires the City to upgrade HVAC systems at City facilities to reduce overall energy use. This measure is implemented by the Department of Public Works through renovation. Since the Project does not propose development of City facilities, no elements of the proposed Project would conflict with this measure.
Measure E-3.2: Energy Efficient Street and Traffic Signal Lights	Not Applicable	This measure requires the City to work with Southern California Edison to replace existing high pressure sodium street lights and traffic lights with high efficiency alternatives, such as Low Emitting Diode (LED) lights. Replace existing City owned traffic lights with LED lights. Require any new street and traffic lights to be LED. This measure is implemented by the Department of Public Works through renovation, Municipal Code amendment, development and review process, and conditions of approval. Since the Project does not propose development of City streets, no elements of the proposed Project would conflict with this measure.
Measure E-3.3: Street Light Automatic Daylighting Control Devices	Not applicable	This measure required the City to work with Southern California Edison to install astronomical time-switch controls on street lights that automatically turns off the outdoor lighting when daylight is available. This measure was implemented prior to 2011. No elements of the proposed Project would conflict with this measure.
Measure: E-3.4: Energy Efficient Lights, Ballasts, and Occupancy	Not applicable	This measure requires the City to install energy efficient lights, ballasts and occupancy sensors at all City facilities. This measure was implemented between

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
Sensors at City Facilities		prior to 2011. No elements of the proposed Project would conflict with this measure.
Measure E-3.5: Municipal Energy Efficiency Upgrades and Purchasing Standards	Not applicable	This measure requires the City to develop and adopt an energy efficient replacement/purchasing policy for City equipment and appliances (i.e., lights, computers, low-flow toilets and faucets, etc.). This measure is implemented by the Departments of Planning and Public Works through the municipal purchasing policy. Since the Project does not propose City facilities, no elements of the proposed Project would conflict with this measure.
Measure E-4.1: Landscaping Ordinance	Applicable	This measure requires the City to enforce the City's AB 1881 Landscaping Ordinance, which requires that landscaping be water efficient, thereby consuming less energy and reducing emissions. This measure is implemented by the Departments of Building and Planning through City ordinance, development and review process, and conditions of approval. The proposed Project would be required to comply with conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure E-4.2: Indoor Water Conservation Requirements	Applicable	This measure requires that development projects reduce indoor water consumption by 30% by 2020. This measure is implemented by the Departments of Building and Planning through amendments to the Municipal Code and conditions of approval. The proposed Project would be required to comply with the City's Municipal Code and conditions of approval. As such, the proposed Project would not conflict with this measure. The proposed Project was analyzed with this measure.
Measure E-5.1: Renewable Energy Incentives	Applicable	This measure facilitates the voluntary installation of small-scale renewable energy systems, such as solar photovoltaic and solar hot water systems, by connecting residents and businesses with technical and financial assistance through the City website. This measure is implemented by the Departments of Building and Planning through outreach and incentive programs. No elements of the proposed Project would conflict with this measure.
Solid Waste Measures		
Measure S-1.1: Commercial Recycling	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to require curbside recycling for all commercial land uses to divert 65% of commercial solid waste by 2020 and 75% of commercial solid waste by 2030. This measure is implemented by the Department of Public Works through City contracts. No elements of the proposed

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
		Project would conflict with this measure.
Measure S-1.2: Tiered Solid Waste Rate Structure	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to implement a tiered rate structure for residential waste; divert 65% of residential solid waste by 2020 and 75% of residential solid waste by 2030. This measure is implemented by the Department of Public Works through City contracts. No elements of the proposed Project would conflict with this measure.
Measure S-1.3: Recycling Receptacles at City Buildings and Facilities	Not applicable	This measure provides recycling containers at all City buildings and facilities and to all employees in order to divert 65% of municipal solid waste by 2020 and 75% of municipal solid waste by 2030. This measure is implemented by the Department of Public Works through City programs. Since the Project does not propose the development of City facilities, no elements of the proposed Project would conflict with this measure.
Measure S-1.4: Construction and Demolition Waste Diversion	Applicable	This measure requires development projects to divert, recycle or salvage at least 65% of nonhazardous construction and demolition debris generated at the site by 2020 and requires all construction and demolition projects to be accompanied by a waste management plan for the project. This measure is implemented by the Departments of Planning and Building through City contracts, Municipal Code amendments, development and review process, and conditions of approval. The proposed Project project-specific elements would be required to comply with the City's Municipal Code and conditions of approval. As such, the proposed Project would not conflict with this measure.
Measure S-1.5: Green Waste Program	Not applicable	This measure requires the City to renegotiate the contract with the waste provider to provide green waste bins that split off the green waste from the trash stream. This measure is implemented by the Department of Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure S-2.1: Municipal Purchasing Policy	Not applicable	This measure requires the City to develop and adopt an Environmentally Preferable Purchasing policy for municipal operations. This measure is implemented by the Departments of Planning and Public Works through the municipal purchasing policy. No elements of the proposed Project would conflict with this measure.
Community Outreach and Education Measures		
Measure EO-1.1: Green Page on	Not applicable	This measure requires the City to create and regularly

Plan, Policy, Regulation	Applicability to Proposed Project	Evaluation
City's Website		maintain a "green" page on the City's website to provide educational materials, and information of incentive programs and rebates. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.2: Quarterly Brochure with Specific Emissions Reduction Information	Not applicable	This measure requires the City to create a quarterly brochure to distribute to residents and business providing educational information, information about what the City is doing to reduce emissions, ways for the public and businesses to reduce emissions, and incentive and rebate programs. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.3: Themed Outreach	Not applicable	This measure requires the City to promote different methods for reducing GHG emissions throughout the year. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.
Measure EO-1.4: Multi-Modal Transportation Access Guide	Not applicable	This measure requires the City to produce a Multi-Modal Transportation Access Guide, which concisely describes and provides maps on how to reach a major destination in Lake Elsinore by foot, bicycle, transit, rideshare, etc. This measure is implemented by the Departments of Planning and Public Works through City programs. No elements of the proposed Project would conflict with this measure.

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Appendix A

CalEEMod Output

Lake Elsinore CCR Affordable Appartments

South Coast AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	190.00	Space	1.71	76,000.00	0
Apartments Mid Rise	81.00	Dwelling Unit	2.13	81,000.00	232

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2019
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 -

Construction Phase - Construction schedule per CCR

Trips and VMT - Haul trips - during site preparation (scrubbing debris) and grading (import of fill) provided by VCS.

Demolition - Concrete debris - rip-rap demo

Grading - Import - soil fill

Construction Off-road Equipment Mitigation - WRAP fugitive dust guidebook 2006.

Area Mitigation -

Energy Mitigation - Energy improvement: Lake Elsinore Climate Action Plan requirement

Water Mitigation - Water Conservation: Lake Elsinore Climate Action Plan requirement

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	74
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	74
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	280.00
tblConstructionPhase	NumDays	8.00	60.00
tblConstructionPhase	NumDays	5.00	13.00
tblGrading	MaterialImported	0.00	38,000.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	7.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	3,750.00	3,167.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	5.0831	52.4928	24.4139	0.0408	18.2856	2.8809	21.1665	9.9887	2.6505	12.6392	0.0000	4,138.8466	4,138.8466	1.2038	0.0000	4,168.9420
2018	4.6716	48.3950	23.3175	0.0426	18.2764	2.5790	20.8554	9.9864	2.3727	12.3591	0.0000	4,216.1349	4,216.1349	1.2022	0.0000	4,234.1336

2019	29.6942	23.8194	21.4592	0.0422	1.1404	1.3139	2.4543	0.3055	1.2354	1.5409	0.0000	4,149.2345	4,149.2345	0.7036	0.0000	4,166.8254
Maximum	**29.6942**	**52.4928**	**24.4139**	**0.0426**	**18.2856**	**2.8809**	**21.1665**	**9.9887**	**2.6505**	**12.6392**	**0.0000**	**4,216.1349**	**4,216.1349**	**1.2038**	**0.0000**	**4,234.1336**

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					
2017	3.0782	30.0082	23.1310	0.0408	4.9166	1.5550	6.4340	2.6400	1.4563	4.0385	0.0000	4,138.8466	4,138.8466	1.2038	0.0000	4,168.9420
2018	3.0305	27.7635	22.5127	0.0426	4.9074	1.3578	6.2652	2.6377	1.2516	3.8893	0.0000	4,216.1349	4,216.1349	1.2022	0.0000	4,234.1335
2019	29.6942	21.2528	21.5057	0.0422	1.1404	1.1355	2.2759	0.3055	1.0718	1.3773	0.0000	4,149.2345	4,149.2345	0.7036	0.0000	4,166.8254
Maximum	**29.6942**	**30.0082**	**23.1310**	**0.0426**	**4.9166**	**1.5550**	**6.4340**	**2.6400**	**1.4563**	**4.0385**	**0.0000**	**4,216.1349**	**4,216.1349**	**1.2038**	**0.0000**	**4,234.1335**

	ROG	NOx	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	**9.24**	**36.63**	**2.95**	**0.00**	**70.92**	**40.23**	**66.33**	**72.47**	**39.61**	**64.94**	**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	23.2077	1.7586	47.9280	0.1054		6.2243	6.2243		6.2243	6.2243	758.7204	1,470.0743	2,228.7947	2.2746	0.0515	2,301.0051
Energy	0.0447	0.3820	0.1625	2.4400e-003		0.0309	0.0309		0.0309	0.0309		487.6080	487.6080	9.3500e-003	8.9400e-003	490.5056

Mobile	1.1379	6.1055	15.0374	0.0487	3.9139	0.0576	3.9715	1.0474	0.0542	1.1016		4,950.9507	4,950.9507	0.2706		4,957.7160
Total	**24.3903**	**8.2460**	**63.1279**	**0.1566**	**3.9139**	**6.3128**	**10.2267**	**1.0474**	**6.3094**	**7.3568**	**758.7204**	**6,908.6330**	**7,667.3534**	**2.5545**	**0.0604**	**7,749.2266**

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	2.1243	1.2873	7.2499	8.0700e-003		0.1346	0.1346		0.1346	0.1346	0.0000	1,555.8390	1,555.8390	0.0415	0.0283	1,565.3109
Energy	0.0402	0.3432	0.1460	2.1900e-003		0.0278	0.0278		0.0278	0.0278		438.0815	438.0815	8.4000e-003	8.0300e-003	440.6848
Mobile	1.1379	6.1055	15.0374	0.0487	3.9139	0.0576	3.9715	1.0474	0.0542	1.1016		4,950.9507	4,950.9507	0.2706		4,957.7160
Total	**3.3024**	**7.7359**	**22.4333**	**0.0590**	**3.9139**	**0.2200**	**4.1339**	**1.0474**	**0.2166**	**1.2640**	**0.0000**	**6,944.8712**	**6,944.8712**	**0.3205**	**0.0363**	**6,963.7117**

	ROG	NOx	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	**86.46**	**6.19**	**64.46**	**62.33**	**0.00**	**96.52**	**59.58**	**0.00**	**96.57**	**82.82**	**100.00**	**-0.52**	**9.42**	**87.45**	**39.89**	**10.14**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/28/2017	12/25/2017	5	20	
2	Site Preparation	Site Preparation	12/26/2017	1/11/2018	5	13	
3	Grading	Grading	1/12/2018	4/5/2018	5	60	
4	Building Construction	Building Construction	4/6/2018	5/2/2019	5	280	
5	Paving	Paving	5/3/2019	5/28/2019	5	18	
6	Architectural Coating	Architectural Coating	5/29/2019	6/21/2019	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30

Acres of Paving: 1.71

Residential Indoor: 164,025; Residential Outdoor: 54,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
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
Demolition	6	15.00	0.00	6.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,167.00	14.70	6.90	2.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	21.00	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	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0770	0.0000	0.0770	0.0117	0.0000	0.0117			0.0000			0.0000
Off-Road	4.1031	42.7475	23.0122	0.0388		2.1935	2.1935		2.0425	2.0425		3,924.2833	3,924.2833	1.0730		3,951.1070
Total	**4.1031**	**42.7475**	**23.0122**	**0.0388**	**0.0770**	**2.1935**	**2.2705**	**0.0117**	**2.0425**	**2.0542**		**3,924.2833**	**3,924.2833**	**1.0730**		**3,951.1070**

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	3.0700e-003	0.1014	0.0199	2.4000e-004	5.2400e-003	5.5000e-004	5.7900e-003	1.4400e-003	5.2000e-004	1.9600e-003		25.4592	25.4592	1.8900e-003		25.5064
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	0.0987	0.0729	0.7775	1.7700e-003	0.1677	1.3800e-003	0.1691	0.0445	1.2800e-003	0.0457		176.0472	176.0472	6.6600e-003		176.2136
Total	**0.1017**	**0.1743**	**0.7974**	**2.0100e-003**	**0.1729**	**1.9300e-003**	**0.1748**	**0.0459**	**1.8000e-003**	**0.0477**		**201.5063**	**201.5063**	**8.5500e-003**		**201.7200**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0200	0.0000	0.0200	3.0300e-003	0.0000	3.0300e-003			0.0000			0.0000
Off-Road	2.9765	29.8339	22.2191	0.0388		1.5531	1.5531		1.4545	1.4545	0.0000	3,924.2833	3,924.2833	1.0730		3,951.1070
Total	**2.9765**	**29.8339**	**22.2191**	**0.0388**	**0.0200**	**1.5531**	**1.5731**	**3.0300e-003**	**1.4545**	**1.4575**	**0.0000**	**3,924.2833**	**3,924.2833**	**1.0730**		**3,951.1070**

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	3.0700e-003	0.1014	0.0199	2.4000e-004	5.2400e-003	5.5000e-004	5.7900e-003	1.4400e-003	5.2000e-004	1.9600e-003		25.4592	25.4592	1.8900e-003		25.5064
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	0.0987	0.0729	0.7775	1.7700e-003	0.1677	1.3800e-003	0.1691	0.0445	1.2800e-003	0.0457		176.0472	176.0472	6.6600e-003		176.2136

Total	**0.1017**	**0.1743**	**0.7974**	**2.0100e-003**	**0.1729**	**1.9300e-003**	**0.1748**	**0.0459**	**1.8000e-003**	**0.0477**		**201.5063**	**201.5063**	**8.5500e-003**		**201.7200**

3.3 Site Preparation - 2017

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	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**4.9608**	**52.2754**	**23.4554**	**0.0380**	**18.0663**	**2.8786**	**20.9448**	**9.9307**	**2.6483**	**12.5790**		**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

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	3.9400e-003	0.1300	0.0255	3.0000e-004	0.0182	7.0000e-004	0.0189	4.6500e-003	6.7000e-004	5.3200e-003		32.6400	32.6400	2.4200e-003		32.7005
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	0.1184	0.0875	0.9330	2.1200e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		211.2566	211.2566	7.9900e-003		211.4563
Total	**0.1223**	**0.2175**	**0.9585**	**2.4200e-003**	**0.2194**	**2.3600e-003**	**0.2217**	**0.0580**	**2.2000e-003**	**0.0602**		**243.8966**	**243.8966**	**0.0104**		**244.1568**

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					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	2.7689	27.7223	22.1725	0.0380		1.5151	1.5151		1.3963	1.3963	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	**2.7689**	**27.7223**	**22.1725**	**0.0380**	**4.6972**	**1.5151**	**6.2123**	**2.5820**	**1.3963**	**3.9783**	**0.0000**	**3,894.9500**	**3,894.9500**	**1.1934**		**3,924.7852**

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	3.9400e-003	0.1300	0.0255	3.0000e-004	0.0182	7.0000e-004	0.0189	4.6500e-003	6.7000e-004	5.3200e-003		32.6400	32.6400	2.4200e-003		32.7005
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	0.1184	0.0875	0.9330	2.1200e-003	0.2012	1.6600e-003	0.2029	0.0534	1.5300e-003	0.0549		211.2566	211.2566	7.9900e-003		211.4563
Total	**0.1223**	**0.2175**	**0.9585**	**2.4200e-003**	**0.2194**	**2.3600e-003**	**0.2217**	**0.0580**	**2.2000e-003**	**0.0602**		**243.8966**	**243.8966**	**0.0104**		**244.1568**

3.3 Site Preparation - 2018

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	4.5627	48.1988	22.4763	0.0380		2.5769	2.5769		2.3708	2.3708		3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**4.5627**	**48.1988**	**22.4763**	**0.0380**	**18.0663**	**2.5769**	**20.6432**	**9.9307**	**2.3708**	**12.3014**		**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	3.4300e-003	0.1201	0.0238	3.0000e-004	8.9800e-003	4.6000e-004	9.4500e-003	2.4000e-003	4.4000e-004	2.8400e-003		32.3622	32.3622	2.3600e-003		32.4212
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	0.1055	0.0762	0.8174	2.0600e-003	0.2012	1.6000e-003	0.2028	0.0534	1.4800e-003	0.0548		205.3223	205.3223	7.0100e-003		205.4974
Total	**0.1089**	**0.1963**	**0.8412**	**2.3600e-003**	**0.2102**	**2.0600e-003**	**0.2123**	**0.0558**	**1.9200e-003**	**0.0577**		**237.6845**	**237.6845**	**9.3700e-003**		**237.9186**

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					4.6972	0.0000	4.6972	2.5820	0.0000	2.5820			0.0000			0.0000
Off-Road	2.5598	25.6012	21.6716	0.0380		1.3557	1.3557		1.2497	1.2497	0.0000	3,831.6239	3,831.6239	1.1928		3,861.4448
Total	**2.5598**	**25.6012**	**21.6716**	**0.0380**	**4.6972**	**1.3557**	**6.0530**	**2.5820**	**1.2497**	**3.8317**	**0.0000**	**3,831.6239**	**3,831.6239**	**1.1928**		**3,861.4448**

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	3.4300e-003	0.1201	0.0238	3.0000e-004	8.9800e-003	4.6000e-004	9.4500e-003	2.4000e-003	4.4000e-004	2.8400e-003		32.3622	32.3622	2.3600e-003		32.4212
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	0.1055	0.0762	0.8174	2.0600e-003	0.2012	1.6000e-003	0.2028	0.0534	1.4800e-003	0.0548		205.3223	205.3223	7.0100e-003		205.4974
Total	**0.1089**	**0.1963**	**0.8412**	**2.3600e-003**	**0.2102**	**2.0600e-003**	**0.2123**	**0.0558**	**1.9200e-003**	**0.0577**		**237.6845**	**237.6845**	**9.3700e-003**		**237.9186**

3.4 Grading - 2018

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					6.6240	0.0000	6.6240	3.3783	0.0000	3.3783			0.0000			0.0000
Off-Road	2.7733	30.6725	16.5770	0.0297		1.5513	1.5513		1.4272	1.4272		2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**2.7733**	**30.6725**	**16.5770**	**0.0297**	**6.6240**	**1.5513**	**8.1753**	**3.3783**	**1.4272**	**4.8055**		**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

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	0.1572	6.4089	1.1743	8.7800e-003	0.0932	0.0109	0.1041	0.0256	0.0104	0.0361		944.9618	944.9618	0.1462		948.6175
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	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479
Total	**0.2451**	**6.4724**	**1.8555**	**0.0105**	**0.2609**	**0.0122**	**0.2731**	**0.0701**	**0.0116**	**0.0818**		**1,116.0637**	**1,116.0637**	**0.1521**		**1,119.8654**

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					1.7222	0.0000	1.7222	0.8784	0.0000	0.8784			0.0000			0.0000
Off-Road	1.9345	21.2911	16.3128	0.0297		1.0083	1.0083		0.9288	0.9288	0.0000	2,988.0216	2,988.0216	0.9302		3,011.2769
Total	**1.9345**	**21.2911**	**16.3128**	**0.0297**	**1.7222**	**1.0083**	**2.7306**	**0.8784**	**0.9288**	**1.8071**	**0.0000**	**2,988.0216**	**2,988.0216**	**0.9302**		**3,011.2769**

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	0.1572	6.4089	1.1743	8.7800e-003	0.0932	0.0109	0.1041	0.0256	0.0104	0.0361		944.9618	944.9618	0.1462		948.6175
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	0.0879	0.0635	0.6811	1.7200e-003	0.1677	1.3400e-003	0.1690	0.0445	1.2300e-003	0.0457		171.1019	171.1019	5.8400e-003		171.2479

Total	**0.2451**	**6.4724**	**1.8555**	**0.0105**	**0.2609**	**0.0122**	**0.2731**	**0.0701**	**0.0116**	**0.0818**		**1,116.0637**	**1,116.0637**	**0.1521**		**1,119.8654**

3.5 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.6795**	**23.3900**	**17.5804**	**0.0269**		**1.4999**	**1.4999**		**1.4099**	**1.4099**		**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.0933	2.5491	0.7035	5.3400e-003	0.1344	0.0189	0.1533	0.0387	0.0181	0.0568		568.5885	568.5885	0.0428		569.6582
Worker	0.5273	0.3809	4.0869	0.0103	1.0060	8.0200e-003	1.0140	0.2668	7.3900e-003	0.2742		1,026.6113	1,026.6113	0.0350		1,027.4871
Total	**0.6205**	**2.9300**	**4.7904**	**0.0157**	**1.1404**	**0.0269**	**1.1673**	**0.3055**	**0.0255**	**0.3309**		**1,595.1998**	**1,595.1998**	**0.0778**		**1,597.1453**

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	2.4100	20.4781	17.5867	0.0269		1.2858	1.2858		1.2134	1.2134	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	**2.4100**	**20.4781**	**17.5867**	**0.0269**		**1.2858**	**1.2858**		**1.2134**	**1.2134**	**0.0000**	**2,620.9351**	**2,620.9351**	**0.6421**		**2,636.9883**

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	0.0933	2.5491	0.7035	5.3400e-003	0.1344	0.0189	0.1533	0.0387	0.0181	0.0568		568.5885	568.5885	0.0428		569.6582
Worker	0.5273	0.3809	4.0869	0.0103	1.0060	8.0200e-003	1.0140	0.2668	7.3900e-003	0.2742		1,026.6113	1,026.6113	0.0350		1,027.4871
Total	**0.6205**	**2.9300**	**4.7904**	**0.0157**	**1.1404**	**0.0269**	**1.1673**	**0.3055**	**0.0255**	**0.3309**		**1,595.1998**	**1,595.1998**	**0.0778**		**1,597.1453**

3.5 Building Construction - 2019

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.3612**	**21.0788**	**17.1638**	**0.0269**		**1.2899**	**1.2899**		**1.2127**	**1.2127**		**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

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	0.0846	2.4046	0.6469	5.2900e-003	0.1344	0.0162	0.1506	0.0387	0.0155	0.0542		563.4642	563.4642	0.0412		564.4952
Worker	0.4799	0.3360	3.6485	9.9800e-003	1.0060	7.8300e-003	1.0138	0.2668	7.2100e-003	0.2740		994.1902	994.1902	0.0311		994.9667
Total	**0.5645**	**2.7406**	**4.2954**	**0.0153**	**1.1404**	**0.0240**	**1.1644**	**0.3055**	**0.0227**	**0.3282**		**1,557.6543**	**1,557.6543**	**0.0723**		**1,559.4619**

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	2.1310	18.5122	17.2103	0.0269		1.1115	1.1115		1.0491	1.0491	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	**2.1310**	**18.5122**	**17.2103**	**0.0269**		**1.1115**	**1.1115**		**1.0491**	**1.0491**	**0.0000**	**2,591.5802**	**2,591.5802**	**0.6313**		**2,607.3635**

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	0.0846	2.4046	0.6469	5.2900e-003	0.1344	0.0162	0.1506	0.0387	0.0155	0.0542		563.4642	563.4642	0.0412		564.4952
Worker	0.4799	0.3360	3.6485	9.9800e-003	1.0060	7.8300e-003	1.0138	0.2668	7.2100e-003	0.2740		994.1902	994.1902	0.0311		994.9667
Total	**0.5645**	**2.7406**	**4.2954**	**0.0153**	**1.1404**	**0.0240**	**1.1644**	**0.3055**	**0.0227**	**0.3282**		**1,557.6543**	**1,557.6543**	**0.0723**		**1,559.4619**

3.6 Paving - 2019

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	1.2679	12.7604	12.3130	0.0189		0.7196	0.7196		0.6637	0.6637		1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.2489					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5168**	**12.7604**	**12.3130**	**0.0189**		**0.7196**	**0.7196**		**0.6637**	**0.6637**		**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

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	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037
Total	**0.1067**	**0.0747**	**0.8108**	**2.2200e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**220.9312**	**220.9312**	**6.9000e-003**		**221.1037**

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	1.1802	11.7826	12.3307	0.0189		0.6516	0.6516		0.6014	0.6014	0.0000	1,843.3191	1,843.3191	0.5671		1,857.4966
Paving	0.2489					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.4291**	**11.7826**	**12.3307**	**0.0189**		**0.6516**	**0.6516**		**0.6014**	**0.6014**	**0.0000**	**1,843.3191**	**1,843.3191**	**0.5671**		**1,857.4966**

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	0.1067	0.0747	0.8108	2.2200e-003	0.2236	1.7400e-003	0.2253	0.0593	1.6000e-003	0.0609		220.9312	220.9312	6.9000e-003		221.1037

Total	**0.1067**	**0.0747**	**0.8108**	**2.2200e-003**	**0.2236**	**1.7400e-003**	**0.2253**	**0.0593**	**1.6000e-003**	**0.0609**		**220.9312**	**220.9312**	**6.9000e-003**		**221.1037**

3.7 Architectural Coating - 2019

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	29.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288		281.4481	281.4481	0.0238		282.0423
Total	**29.5983**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**		**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

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	29.3318					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2664	1.8354	1.8413	2.9700e-003		0.1288	0.1288		0.1288	0.1288	0.0000	281.4481	281.4481	0.0238		282.0423
Total	**29.5983**	**1.8354**	**1.8413**	**2.9700e-003**		**0.1288**	**0.1288**		**0.1288**	**0.1288**	**0.0000**	**281.4481**	**281.4481**	**0.0238**		**282.0423**

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	0.0960	0.0672	0.7297	2.0000e-003	0.2012	1.5700e-003	0.2028	0.0534	1.4400e-003	0.0548		198.8380	198.8380	6.2100e-003		198.9933
Total	**0.0960**	**0.0672**	**0.7297**	**2.0000e-003**	**0.2012**	**1.5700e-003**	**0.2028**	**0.0534**	**1.4400e-003**	**0.0548**		**198.8380**	**198.8380**	**6.2100e-003**		**198.9933**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.1379	6.1055	15.0374	0.0487	3.9139	0.0576	3.9715	1.0474	0.0542	1.1016		4,950.9507	4,950.9507	0.2706		4,957.7160
Unmitigated	1.1379	6.1055	15.0374	0.0487	3.9139	0.0576	3.9715	1.0474	0.0542	1.1016		4,950.9507	4,950.9507	0.2706		4,957.7160

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	538.65	517.59	474.66	1,799,130	1,799,130
Parking Lot	0.00	0.00	0.00		
Total	538.65	517.59	474.66	1,799,130	1,799,130

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
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
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
Parking Lot	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991
Apartments Mid Rise	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0402	0.3432	0.1460	2.1900e-003		0.0278	0.0278		0.0278	0.0278		438.0815	438.0815	8.4000e-003	8.0300e-003	440.6848
NaturalGas Unmitigated	0.0447	0.3820	0.1625	2.4400e-003		0.0309	0.0309		0.0309	0.0309		487.6080	487.6080	9.3500e-003	8.9400e-003	490.5056

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					
Apartments Mid Rise	4144.67	0.0447	0.3820	0.1625	2.4400e-003		0.0309	0.0309		0.0309	0.0309		487.6080	487.6080	9.3500e-003	8.9400e-003	490.5056
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		**0.0447**	**0.3820**	**0.1625**	**2.4400e-003**		**0.0309**	**0.0309**		**0.0309**	**0.0309**		**487.6080**	**487.6080**	**9.3500e-003**	**8.9400e-003**	**490.5056**

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					
Apartments Mid Rise	3.72369	0.0402	0.3432	0.1460	2.1900e-003		0.0278	0.0278		0.0278	0.0278		438.0815	438.0815	8.4000e-003	8.0300e-003	440.6848
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		**0.0402**	**0.3432**	**0.1460**	**2.1900e-003**		**0.0278**	**0.0278**		**0.0278**	**0.0278**		**438.0815**	**438.0815**	**8.4000e-003**	**8.0300e-003**	**440.6848**

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	2.1243	1.2873	7.2499	8.0700e-003		0.1346	0.1346		0.1346	0.1346	0.0000	1,555.8390	1,555.8390	0.0415	0.0283	1,565.3109
Unmitigated	23.2077	1.7586	47.9280	0.1054		6.2243	6.2243		6.2243	6.2243	758.7204	1,470.0743	2,228.7947	2.2746	0.0515	2,301.0051

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	0.1447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	21.2249	1.6806	41.1927	0.1051		6.1875	6.1875		6.1875	6.1875	758.7204	1,458.0000	2,216.7204	2.2627	0.0515	2,288.6326
Landscaping	0.2074	0.0780	6.7353	3.5000e-004		0.0369	0.0369		0.0369	0.0369		12.0743	12.0743	0.0119		12.3724
Total	**23.2077**	**1.7586**	**47.9280**	**0.1054**		**6.2243**	**6.2243**		**6.2243**	**6.2243**	**758.7204**	**1,470.0743**	**2,228.7947**	**2.2746**	**0.0515**	**2,301.0050**

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	0.1447					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6307					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1415	1.2093	0.5146	7.7200e-003		0.0978	0.0978		0.0978	0.0978	0.0000	1,543.7647	1,543.7647	0.0296	0.0283	1,552.9385
Landscaping	0.2074	0.0780	6.7353	3.5000e-004		0.0369	0.0369		0.0369	0.0369		12.0743	12.0743	0.0119		12.3724
Total	**2.1243**	**1.2873**	**7.2499**	**8.0700e-003**		**0.1346**	**0.1346**		**0.1346**	**0.1346**	**0.0000**	**1,555.8390**	**1,555.8390**	**0.0415**	**0.0283**	**1,565.3109**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

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

Lake Elsinore CCR Affordable Appartments

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	190.00	Space	1.71	76,000.00	0
Apartments Mid Rise	81.00	Dwelling Unit	2.13	81,000.00	232

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2019
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 -

Construction Phase - Construction schedule per CCR

Trips and VMT - Haul trips - during site preparation (scrubbing debris) and grading (import of fill) provided by VCS.

Demolition - Concrete debris - rip-rap demo

Grading - Import - soil fill

Construction Off-road Equipment Mitigation - WRAP fugitive dust guidebook 2006.

Area Mitigation -

Energy Mitigation - Energy improvement: Lake Elsinore Climate Action Plan requirement

Water Mitigation - Water Conservation: Lake Elsinore Climate Action Plan requirement

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	74
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	74
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	0
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstEquipMitigation	Tier	No Change	Tier 4 Final
tblConstructionPhase	NumDays	230.00	280.00
tblConstructionPhase	NumDays	8.00	60.00
tblConstructionPhase	NumDays	5.00	13.00
tblGrading	MaterialImported	0.00	38,000.00
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	2.00
tblTripsAndVMT	HaulingTripNumber	7.00	6.00
tblTripsAndVMT	HaulingTripNumber	0.00	5.00
tblTripsAndVMT	HaulingTripNumber	3,750.00	3,167.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0521	0.5343	0.2872	4.9000e-004	0.1203	0.0277	0.1480	0.0652	0.0257	0.0910	0.0000	44.9747	44.9747	0.0120	0.0000	45.2746
2018	0.4229	3.8690	2.8094	5.5100e-003	0.4323	0.2050	0.6373	0.1971	0.1916	0.3887	0.0000	499.2323	499.2323	0.0968	0.0000	501.6512

2019	0.4083	1.1831	1.0890	2.1000e-003	0.0530	0.0655	0.1185	0.0142	0.0615	0.0757	0.0000	187.5194	187.5194	0.0330	0.0000	188.3438
Maximum	**0.4229**	**3.8690**	**2.8094**	**5.5100e-003**	**0.4323**	**0.2050**	**0.6373**	**0.1971**	**0.1916**	**0.3887**	**0.0000**	**499.2323**	**499.2323**	**0.0968**	**0.0000**	**501.6512**

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					
2017	0.0365	0.3560	0.2767	4.9000e-004	0.0329	0.0186	0.0515	0.0174	0.0174	0.0347	0.0000	44.9746	44.9746	0.0120	0.0000	45.2745
2018	0.3629	3.2063	2.7984	5.5100e-003	0.1983	0.1627	0.3610	0.0743	0.1527	0.2270	0.0000	499.2319	499.2319	0.0968	0.0000	501.6508
2019	0.3974	1.0613	1.0912	2.1000e-003	0.0530	0.0570	0.1100	0.0142	0.0538	0.0680	0.0000	187.5192	187.5192	0.0330	0.0000	188.3437
Maximum	**0.3974**	**3.2063**	**2.7984**	**5.5100e-003**	**0.1983**	**0.1627**	**0.3610**	**0.0743**	**0.1527**	**0.2270**	**0.0000**	**499.2319**	**499.2319**	**0.0968**	**0.0000**	**501.6508**

	ROG	NOx	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	**9.80**	**17.23**	**0.46**	**0.00**	**53.07**	**20.09**	**42.19**	**61.70**	**19.72**	**40.63**	**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	**11-28-2017**	**2-27-2018**	1.4773	1.0114
2	**2-28-2018**	**5-27-2018**	1.0795	0.8854
3	**5-28-2018**	**8-27-2018**	0.9705	0.8659
4	**8-28-2018**	**11-27-2018**	0.9722	0.8677
5	**11-28-2018**	**2-27-2019**	0.9137	0.8171
6	**2-28-2019**	**5-27-2019**	0.7394	0.6660
7	**5-28-2019**	**8-27-2019**	0.2759	0.2755
		Highest	1.4773	1.0114

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	0.6153	0.0308	1.3568	1.3600e-003		0.0820	0.0820		0.0820	0.0820	8.6037	17.9027	26.5064	0.0270	5.8000e-004	27.3557
Energy	8.1600e-003	0.0697	0.0297	4.4000e-004		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	229.2497	229.2497	7.6800e-003	2.7500e-003	230.2608
Mobile	0.1981	1.1061	2.7179	8.8000e-003	0.6836	0.0102	0.6938	0.1832	9.5900e-003	0.1928	0.0000	810.6380	810.6380	0.0435	0.0000	811.7244
Waste						0.0000	0.0000		0.0000	0.0000	7.5634	0.0000	7.5634	0.4470	0.0000	18.7381
Water						0.0000	0.0000		0.0000	0.0000	1.6743	33.6726	35.3469	0.1734	4.3500e-003	40.9766
Total	**0.8215**	**1.2066**	**4.1044**	**0.0106**	**0.6836**	**0.0978**	**0.7814**	**0.1832**	**0.0972**	**0.2804**	**17.8415**	**1,091.4630**	**1,109.3044**	**0.6985**	**7.6800e-003**	**1,129.0556**

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	0.3517	0.0249	0.8483	1.4000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	18.8752	18.8752	1.6900e-003	3.2000e-004	19.0130
Energy	7.3300e-003	0.0626	0.0267	4.0000e-004		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	217.5250	217.5250	7.3800e-003	2.5700e-003	218.4747
Mobile	0.1981	1.1061	2.7179	8.8000e-003	0.6836	0.0102	0.6938	0.1832	9.5900e-003	0.1928	0.0000	810.6380	810.6380	0.0435	0.0000	811.7244
Waste						0.0000	0.0000		0.0000	0.0000	7.5634	0.0000	7.5634	0.4470	0.0000	18.7381
Water						0.0000	0.0000		0.0000	0.0000	1.1720	27.1041	28.2761	0.1215	3.0700e-003	32.2295
Total	**0.5572**	**1.1936**	**3.5929**	**9.3400e-003**	**0.6836**	**0.0211**	**0.7047**	**0.1832**	**0.0205**	**0.2037**	**8.7355**	**1,074.1423**	**1,082.8777**	**0.6210**	**5.9600e-003**	**1,100.1798**

	ROG	NOx	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	**32.18**	**1.07**	**12.46**	**11.89**	**0.00**	**78.44**	**9.82**	**0.00**	**78.93**	**27.35**	**51.04**	**1.59**	**2.38**	**11.09**	**22.40**	**2.56**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	11/28/2017	12/25/2017	5	20	
2	Site Preparation	Site Preparation	12/26/2017	1/11/2018	5	13	
3	Grading	Grading	1/12/2018	4/5/2018	5	60	
4	Building Construction	Building Construction	4/6/2018	5/2/2019	5	280	
5	Paving	Paving	5/3/2019	5/28/2019	5	18	
6	Architectural Coating	Architectural Coating	5/29/2019	6/21/2019	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 30

Acres of Paving: 1.71

Residential Indoor: 164,025; Residential Outdoor: 54,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
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
Demolition	6	15.00	0.00	6.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	5.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	3,167.00	14.70	6.90	2.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	90.00	21.00	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	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

3.2 Demolition - 2017

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					7.7000e-004	0.0000	7.7000e-004	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0410	0.4275	0.2301	3.9000e-004		0.0219	0.0219		0.0204	0.0204	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0410**	**0.4275**	**0.2301**	**3.9000e-004**	**7.7000e-004**	**0.0219**	**0.0227**	**1.2000e-004**	**0.0204**	**0.0206**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	3.0000e-005	1.0300e-003	1.9000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2333	0.2333	2.0000e-005	0.0000	0.2338
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	7.5000e-004	7.9800e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6243	1.6243	6.0000e-005	0.0000	1.6259
Total	**9.3000e-004**	**1.7800e-003**	**8.1700e-003**	**2.0000e-005**	**1.7000e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.7000e-004**	**0.0000**	**1.8576**	**1.8576**	**8.0000e-005**	**0.0000**	**1.8596**

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					2.0000e-004	0.0000	2.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0298	0.2983	0.2222	3.9000e-004		0.0155	0.0155		0.0145	0.0145	0.0000	35.6005	35.6005	9.7300e-003	0.0000	35.8438
Total	**0.0298**	**0.2983**	**0.2222**	**3.9000e-004**	**2.0000e-004**	**0.0155**	**0.0157**	**3.0000e-005**	**0.0145**	**0.0146**	**0.0000**	**35.6005**	**35.6005**	**9.7300e-003**	**0.0000**	**35.8438**

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	3.0000e-005	1.0300e-003	1.9000e-004	0.0000	5.0000e-005	1.0000e-005	6.0000e-005	1.0000e-005	1.0000e-005	2.0000e-005	0.0000	0.2333	0.2333	2.0000e-005	0.0000	0.2338
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	7.5000e-004	7.9800e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.6243	1.6243	6.0000e-005	0.0000	1.6259
Total	**9.3000e-004**	**1.7800e-003**	**8.1700e-003**	**2.0000e-005**	**1.7000e-003**	**2.0000e-005**	**1.7200e-003**	**4.5000e-004**	**2.0000e-005**	**4.7000e-004**	**0.0000**	**1.8576**	**1.8576**	**8.0000e-005**	**0.0000**	**1.8596**

3.3 Site Preparation - 2017

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					0.1174	0.0000	0.1174	0.0646	0.0000	0.0646	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9200e-003	0.1046	0.0469	8.0000e-005		5.7600e-003	5.7600e-003		5.3000e-003	5.3000e-003	0.0000	7.0669	7.0669	2.1700e-003	0.0000	7.1210
Total	**9.9200e-003**	**0.1046**	**0.0469**	**8.0000e-005**	**0.1174**	**5.7600e-003**	**0.1232**	**0.0646**	**5.3000e-003**	**0.0699**	**0.0000**	**7.0669**	**7.0669**	**2.1700e-003**	**0.0000**	**7.1210**

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	1.0000e-005	2.6000e-004	5.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0598	0.0598	0.0000	0.0000	0.0599
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	2.2000e-004	1.8000e-004	1.9200e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3898	0.3898	1.0000e-005	0.0000	0.3902
Total	**2.3000e-004**	**4.4000e-004**	**1.9700e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.4000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4497**	**0.4497**	**1.0000e-005**	**0.0000**	**0.4501**

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					0.0305	0.0000	0.0305	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5400e-003	0.0554	0.0444	8.0000e-005		3.0300e-003	3.0300e-003		2.7900e-003	2.7900e-003	0.0000	7.0669	7.0669	2.1700e-003	0.0000	7.1210
Total	**5.5400e-003**	**0.0554**	**0.0444**	**8.0000e-005**	**0.0305**	**3.0300e-003**	**0.0336**	**0.0168**	**2.7900e-003**	**0.0196**	**0.0000**	**7.0669**	**7.0669**	**2.1700e-003**	**0.0000**	**7.1210**

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	1.0000e-005	2.6000e-004	5.0000e-005	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0598	0.0598	0.0000	0.0000	0.0599
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	2.2000e-004	1.8000e-004	1.9200e-003	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.3898	0.3898	1.0000e-005	0.0000	0.3902
Total	**2.3000e-004**	**4.4000e-004**	**1.9700e-003**	**0.0000**	**4.3000e-004**	**0.0000**	**4.4000e-004**	**1.1000e-004**	**0.0000**	**1.2000e-004**	**0.0000**	**0.4497**	**0.4497**	**1.0000e-005**	**0.0000**	**0.4501**

3.3 Site Preparation - 2018

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					0.1174	0.0000	0.1174	0.0646	0.0000	0.0646	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0205	0.2169	0.1011	1.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	15.6420	15.6420	4.8700e-003	0.0000	15.7637
Total	**0.0205**	**0.2169**	**0.1011**	**1.7000e-004**	**0.1174**	**0.0116**	**0.1290**	**0.0646**	**0.0107**	**0.0752**	**0.0000**	**15.6420**	**15.6420**	**4.8700e-003**	**0.0000**	**15.7637**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.5000e-004	1.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1335	0.1335	1.0000e-005	0.0000	0.1338
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	4.3000e-004	3.5000e-004	3.7800e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.8525	0.8525	3.0000e-005	0.0000	0.8533

Total	**4.5000e-004**	**9.0000e-004**	**3.8800e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9860**	**0.9860**	**4.0000e-005**	**0.0000**	**0.9870**

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					0.0305	0.0000	0.0305	0.0168	0.0000	0.0168	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0115	0.1152	0.0975	1.7000e-004		6.1000e-003	6.1000e-003		5.6200e-003	5.6200e-003	0.0000	15.6419	15.6419	4.8700e-003	0.0000	15.7637
Total	**0.0115**	**0.1152**	**0.0975**	**1.7000e-004**	**0.0305**	**6.1000e-003**	**0.0366**	**0.0168**	**5.6200e-003**	**0.0224**	**0.0000**	**15.6419**	**15.6419**	**4.8700e-003**	**0.0000**	**15.7637**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	5.5000e-004	1.0000e-004	0.0000	4.0000e-005	0.0000	4.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.1335	0.1335	1.0000e-005	0.0000	0.1338
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	4.3000e-004	3.5000e-004	3.7800e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.8525	0.8525	3.0000e-005	0.0000	0.8533
Total	**4.5000e-004**	**9.0000e-004**	**3.8800e-003**	**1.0000e-005**	**9.3000e-004**	**1.0000e-005**	**9.4000e-004**	**2.5000e-004**	**1.0000e-005**	**2.5000e-004**	**0.0000**	**0.9860**	**0.9860**	**4.0000e-005**	**0.0000**	**0.9870**

3.4 Grading - 2018

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					0.1987	0.0000	0.1987	0.1014	0.0000	0.1014	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0832	0.9202	0.4973	8.9000e-004		0.0465	0.0465		0.0428	0.0428	0.0000	81.3206	81.3206	0.0253	0.0000	81.9535
Total	**0.0832**	**0.9202**	**0.4973**	**8.9000e-004**	**0.1987**	**0.0465**	**0.2453**	**0.1014**	**0.0428**	**0.1442**	**0.0000**	**81.3206**	**81.3206**	**0.0253**	**0.0000**	**81.9535**

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	4.4800e-003	0.1968	0.0309	2.8000e-004	2.7500e-003	3.1000e-004	3.0600e-003	7.6000e-004	2.9000e-004	1.0500e-003	0.0000	26.9982	26.9982	3.7600e-003	0.0000	27.0922
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	2.3900e-003	1.9600e-003	0.0210	5.0000e-005	4.9400e-003	4.0000e-005	4.9800e-003	1.3100e-003	4.0000e-005	1.3500e-003	0.0000	4.7363	4.7363	1.6000e-004	0.0000	4.7403
Total	**6.8700e-003**	**0.1988**	**0.0519**	**3.3000e-004**	**7.6900e-003**	**3.5000e-004**	**8.0400e-003**	**2.0700e-003**	**3.3000e-004**	**2.4000e-003**	**0.0000**	**31.7344**	**31.7344**	**3.9200e-003**	**0.0000**	**31.8325**

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					0.0517	0.0000	0.0517	0.0264	0.0000	0.0264	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0580	0.6387	0.4894	8.9000e-004		0.0303	0.0303		0.0279	0.0279	0.0000	81.3205	81.3205	0.0253	0.0000	81.9534
Total	**0.0580**	**0.6387**	**0.4894**	**8.9000e-004**	**0.0517**	**0.0303**	**0.0819**	**0.0264**	**0.0279**	**0.0542**	**0.0000**	**81.3205**	**81.3205**	**0.0253**	**0.0000**	**81.9534**

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	4.4800e-003	0.1968	0.0309	2.8000e-004	2.7500e-003	3.1000e-004	3.0600e-003	7.6000e-004	2.9000e-004	1.0500e-003	0.0000	26.9982	26.9982	3.7600e-003	0.0000	27.0922
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	2.3900e-003	1.9600e-003	0.0210	5.0000e-005	4.9400e-003	4.0000e-005	4.9800e-003	1.3100e-003	4.0000e-005	1.3500e-003	0.0000	4.7363	4.7363	1.6000e-004	0.0000	4.7403
Total	**6.8700e-003**	**0.1988**	**0.0519**	**3.3000e-004**	**7.6900e-003**	**3.5000e-004**	**8.0400e-003**	**2.0700e-003**	**3.3000e-004**	**2.4000e-003**	**0.0000**	**31.7344**	**31.7344**	**3.9200e-003**	**0.0000**	**31.8325**

3.5 Building Construction - 2018

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	0.2572	2.2454	1.6877	2.5800e-003		0.1440	0.1440		0.1354	0.1354	0.0000	228.2566	228.2566	0.0559	0.0000	229.6546
Total	**0.2572**	**2.2454**	**1.6877**	**2.5800e-003**		**0.1440**	**0.1440**		**0.1354**	**0.1354**	**0.0000**	**228.2566**	**228.2566**	**0.0559**	**0.0000**	**229.6546**

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	8.7400e-003	0.2493	0.0642	5.2000e-004	0.0127	1.8000e-003	0.0145	3.6700e-003	1.7200e-003	5.3900e-003	0.0000	50.3564	50.3564	3.5800e-003	0.0000	50.4460
Worker	0.0459	0.0376	0.4032	1.0100e-003	0.0948	7.7000e-004	0.0956	0.0252	7.1000e-004	0.0259	0.0000	90.9363	90.9363	3.1000e-003	0.0000	91.0138
Total	**0.0547**	**0.2868**	**0.4675**	**1.5300e-003**	**0.1075**	**2.5700e-003**	**0.1101**	**0.0288**	**2.4300e-003**	**0.0313**	**0.0000**	**141.2927**	**141.2927**	**6.6800e-003**	**0.0000**	**141.4598**

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	0.2314	1.9659	1.6883	2.5800e-003		0.1234	0.1234		0.1165	0.1165	0.0000	228.2563	228.2563	0.0559	0.0000	229.6543
Total	**0.2314**	**1.9659**	**1.6883**	**2.5800e-003**		**0.1234**	**0.1234**		**0.1165**	**0.1165**	**0.0000**	**228.2563**	**228.2563**	**0.0559**	**0.0000**	**229.6543**

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	8.7400e-003	0.2493	0.0642	5.2000e-004	0.0127	1.8000e-003	0.0145	3.6700e-003	1.7200e-003	5.3900e-003	0.0000	50.3564	50.3564	3.5800e-003	0.0000	50.4460
Worker	0.0459	0.0376	0.4032	1.0100e-003	0.0948	7.7000e-004	0.0956	0.0252	7.1000e-004	0.0259	0.0000	90.9363	90.9363	3.1000e-003	0.0000	91.0138
Total	**0.0547**	**0.2868**	**0.4675**	**1.5300e-003**	**0.1075**	**2.5700e-003**	**0.1101**	**0.0288**	**2.4300e-003**	**0.0313**	**0.0000**	**141.2927**	**141.2927**	**6.6800e-003**	**0.0000**	**141.4598**

3.5 Building Construction - 2019

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	0.1039	0.9275	0.7552	1.1800e-003		0.0568	0.0568		0.0534	0.0534	0.0000	103.4459	103.4459	0.0252	0.0000	104.0759
Total	**0.1039**	**0.9275**	**0.7552**	**1.1800e-003**		**0.0568**	**0.0568**		**0.0534**	**0.0534**	**0.0000**	**103.4459**	**103.4459**	**0.0252**	**0.0000**	**104.0759**

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	3.6300e-003	0.1077	0.0270	2.4000e-004	5.8200e-003	7.0000e-004	6.5300e-003	1.6800e-003	6.7000e-004	2.3500e-003	0.0000	22.8756	22.8756	1.5800e-003	0.0000	22.9151
Worker	0.0191	0.0152	0.1651	4.5000e-004	0.0435	3.4000e-004	0.0438	0.0115	3.2000e-004	0.0119	0.0000	40.3640	40.3640	1.2600e-003	0.0000	40.3955

Total	**0.0228**	**0.1229**	**0.1921**	**6.9000e-004**	**0.0493**	**1.0400e-003**	**0.0503**	**0.0132**	**9.9000e-004**	**0.0142**	**0.0000**	**63.2395**	**63.2395**	**2.8400e-003**	**0.0000**	**63.3106**

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	0.0938	0.8145	0.7573	1.1800e-003		0.0489	0.0489		0.0462	0.0462	0.0000	103.4457	103.4457	0.0252	0.0000	104.0757
Total	**0.0938**	**0.8145**	**0.7573**	**1.1800e-003**		**0.0489**	**0.0489**		**0.0462**	**0.0462**	**0.0000**	**103.4457**	**103.4457**	**0.0252**	**0.0000**	**104.0757**

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	3.6300e-003	0.1077	0.0270	2.4000e-004	5.8200e-003	7.0000e-004	6.5300e-003	1.6800e-003	6.7000e-004	2.3500e-003	0.0000	22.8756	22.8756	1.5800e-003	0.0000	22.9151
Worker	0.0191	0.0152	0.1651	4.5000e-004	0.0435	3.4000e-004	0.0438	0.0115	3.2000e-004	0.0119	0.0000	40.3640	40.3640	1.2600e-003	0.0000	40.3955
Total	**0.0228**	**0.1229**	**0.1921**	**6.9000e-004**	**0.0493**	**1.0400e-003**	**0.0503**	**0.0132**	**9.9000e-004**	**0.0142**	**0.0000**	**63.2395**	**63.2395**	**2.8400e-003**	**0.0000**	**63.3106**

3.6 Paving - 2019

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	0.0114	0.1148	0.1108	1.7000e-004		6.4800e-003	6.4800e-003		5.9700e-003	5.9700e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658
Paving	2.2400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0137**	**0.1148**	**0.1108**	**1.7000e-004**		**6.4800e-003**	**6.4800e-003**		**5.9700e-003**	**5.9700e-003**	**0.0000**	**15.0501**	**15.0501**	**4.6300e-003**	**0.0000**	**15.1658**

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	8.7000e-004	6.9000e-004	7.5000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8347	1.8347	6.0000e-005	0.0000	1.8362
Total	**8.7000e-004**	**6.9000e-004**	**7.5000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8347**	**1.8347**	**6.0000e-005**	**0.0000**	**1.8362**

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	0.0106	0.1060	0.1110	1.7000e-004		5.8600e-003	5.8600e-003		5.4100e-003	5.4100e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658
Paving	2.2400e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0129**	**0.1060**	**0.1110**	**1.7000e-004**		**5.8600e-003**	**5.8600e-003**		**5.4100e-003**	**5.4100e-003**	**0.0000**	**15.0501**	**15.0501**	**4.6300e-003**	**0.0000**	**15.1658**

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	8.7000e-004	6.9000e-004	7.5000e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	1.0000e-005	5.4000e-004	0.0000	1.8347	1.8347	6.0000e-005	0.0000	1.8362
Total	**8.7000e-004**	**6.9000e-004**	**7.5000e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**1.0000e-005**	**5.4000e-004**	**0.0000**	**1.8347**	**1.8347**	**6.0000e-005**	**0.0000**	**1.8362**

3.7 Architectural Coating - 2019

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	0.2640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-003	0.0165	0.0166	3.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	2.2979	2.2979	1.9000e-004	0.0000	2.3028
Total	**0.2664**	**0.0165**	**0.0166**	**3.0000e-005**		**1.1600e-003**	**1.1600e-003**		**1.1600e-003**	**1.1600e-003**	**0.0000**	**2.2979**	**2.2979**	**1.9000e-004**	**0.0000**	**2.3028**

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	7.8000e-004	6.2000e-004	6.7500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6513	1.6513	5.0000e-005	0.0000	1.6525
Total	**7.8000e-004**	**6.2000e-004**	**6.7500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6513**	**1.6513**	**5.0000e-005**	**0.0000**	**1.6525**

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	0.2640					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.4000e-003	0.0165	0.0166	3.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	2.2979	2.2979	1.9000e-004	0.0000	2.3028
Total	**0.2664**	**0.0165**	**0.0166**	**3.0000e-005**		**1.1600e-003**	**1.1600e-003**		**1.1600e-003**	**1.1600e-003**	**0.0000**	**2.2979**	**2.2979**	**1.9000e-004**	**0.0000**	**2.3028**

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	7.8000e-004	6.2000e-004	6.7500e-003	2.0000e-005	1.7800e-003	1.0000e-005	1.7900e-003	4.7000e-004	1.0000e-005	4.9000e-004	0.0000	1.6513	1.6513	5.0000e-005	0.0000	1.6525
Total	**7.8000e-004**	**6.2000e-004**	**6.7500e-003**	**2.0000e-005**	**1.7800e-003**	**1.0000e-005**	**1.7900e-003**	**4.7000e-004**	**1.0000e-005**	**4.9000e-004**	**0.0000**	**1.6513**	**1.6513**	**5.0000e-005**	**0.0000**	**1.6525**

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	0.1981	1.1061	2.7179	8.8000e-003	0.6836	0.0102	0.6938	0.1832	9.5900e-003	0.1928	0.0000	810.6380	810.6380	0.0435	0.0000	811.7244
Unmitigated	0.1981	1.1061	2.7179	8.8000e-003	0.6836	0.0102	0.6938	0.1832	9.5900e-003	0.1928	0.0000	810.6380	810.6380	0.0435	0.0000	811.7244

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	538.65	517.59	474.66	1,799,130	1,799,130
Parking Lot	0.00	0.00	0.00		
Total	538.65	517.59	474.66	1,799,130	1,799,130

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-...	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
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
Parking Lot	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991
Apartments Mid Rise	0.546418	0.044132	0.199182	0.124467	0.017484	0.005870	0.020172	0.031831	0.001999	0.002027	0.004724	0.000704	0.000991

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	144.9957	144.9957	5.9900e-003	1.2400e-003	145.5144
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	148.5208	148.5208	6.1300e-003	1.2700e-003	149.0521
NaturalGas Mitigated	7.3300e-003	0.0626	0.0267	4.0000e-004		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	72.5293	72.5293	1.3900e-003	1.3300e-003	72.9603
NaturalGas Unmitigated	8.1600e-003	0.0697	0.0297	4.4000e-004		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	80.7290	80.7290	1.5500e-003	1.4800e-003	81.2087

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					
Apartments Mid Rise	1.5128e+006	8.1600e-003	0.0697	0.0297	4.4000e-004		5.6400e-003	5.6400e-003		5.6400e-003	5.6400e-003	0.0000	80.7290	80.7290	1.5500e-003	1.4800e-003	81.2087
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		**8.1600e-003**	**0.0697**	**0.0297**	**4.4000e-004**		**5.6400e-003**	**5.6400e-003**		**5.6400e-003**	**5.6400e-003**	**0.0000**	**80.7290**	**80.7290**	**1.5500e-003**	**1.4800e-003**	**81.2087**

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					
Apartments Mid Rise	1.35915e+006	7.3300e-003	0.0626	0.0267	4.0000e-004		5.0600e-003	5.0600e-003		5.0600e-003	5.0600e-003	0.0000	72.5293	72.5293	1.3900e-003	1.3300e-003	72.9603
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		**7.3300e-003**	**0.0626**	**0.0267**	**4.0000e-004**		**5.0600e-003**	**5.0600e-003**		**5.0600e-003**	**5.0600e-003**	**0.0000**	**72.5293**	**72.5293**	**1.3900e-003**	**1.3300e-003**	**72.9603**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	399255	127.2114	5.2500e-003	1.0900e-003	127.6665

Parking Lot	66880	21.3094	8.8000e-004	1.8000e-004	21.3856
Total		**148.5208**	**6.1300e-003**	**1.2700e-003**	**149.0521**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	388192	123.6863	5.1100e-003	1.0600e-003	124.1288
Parking Lot	66880	21.3094	8.8000e-004	1.8000e-004	21.3856
Total		**144.9957**	**5.9900e-003**	**1.2400e-003**	**145.5144**

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	0.3517	0.0249	0.8483	1.4000e-004		5.8300e-003	5.8300e-003		5.8300e-003	5.8300e-003	0.0000	18.8752	18.8752	1.6900e-003	3.2000e-004	19.0130
Unmitigated	0.6153	0.0308	1.3568	1.3600e-003		0.0820	0.0820		0.0820	0.0820	8.6037	17.9027	26.5064	0.0270	5.8000e-004	27.3557

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	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.2653	0.0210	0.5149	1.3100e-003		0.0773	0.0773		0.0773	0.0773	8.6037	16.5334	25.1372	0.0257	5.8000e-004	25.9527
Landscaping	0.0259	9.7500e-003	0.8419	4.0000e-005		4.6100e-003	4.6100e-003		4.6100e-003	4.6100e-003	0.0000	1.3692	1.3692	1.3500e-003	0.0000	1.4030
Total	**0.6153**	**0.0308**	**1.3568**	**1.3500e-003**		**0.0820**	**0.0820**		**0.0820**	**0.0820**	**8.6037**	**17.9026**	**26.5064**	**0.0270**	**5.8000e-004**	**27.3557**

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	0.0264					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2976					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.7700e-003	0.0151	6.4300e-003	1.0000e-004		1.2200e-003	1.2200e-003		1.2200e-003	1.2200e-003	0.0000	17.5060	17.5060	3.4000e-004	3.2000e-004	17.6100
Landscaping	0.0259	9.7500e-003	0.8419	4.0000e-005		4.6100e-003	4.6100e-003		4.6100e-003	4.6100e-003	0.0000	1.3692	1.3692	1.3500e-003	0.0000	1.4030
Total	**0.3517**	**0.0249**	**0.8483**	**1.4000e-004**		**5.8300e-003**	**5.8300e-003**		**5.8300e-003**	**5.8300e-003**	**0.0000**	**18.8752**	**18.8752**	**1.6900e-003**	**3.2000e-004**	**19.0130**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	28.2761	0.1215	3.0700e-003	32.2295
Unmitigated	35.3469	0.1734	4.3500e-003	40.9766

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.27748 / 3.3271	35.3469	0.1734	4.3500e-003	40.9766
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**35.3469**	**0.1734**	**4.3500e-003**	**40.9766**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	3.69423 / 3.3271	28.2761	0.1215	3.0700e-003	32.2295
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**28.2761**	**0.1215**	**3.0700e-003**	**32.2295**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	7.5634	0.4470	0.0000	18.7381
Unmitigated	7.5634	0.4470	0.0000	18.7381

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e

Land Use	tons	MT/yr			
Apartments Mid Rise	37.26	7.5634	0.4470	0.0000	18.7381
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.5634**	**0.4470**	**0.0000**	**18.7381**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	37.26	7.5634	0.4470	0.0000	18.7381
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**7.5634**	**0.4470**	**0.0000**	**18.7381**

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