AIR QUALITY and GHG IMPACT ANALYSES

TTM 36567 SOUTH SHORE II

CITY OF LAKE ELSINORE, CALIFORNIA

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CLIMATE AND METEOROLOGY

The climate of the Lake Elsinore area in Riverside County, technically called an interior valley sub-climate of Southern California's Mediterranean-type climate, is characterized by warm summers, mild winters, infrequent rainfall, moderate afternoon breezes, and generally fair weather. The clouds and fog that form along the area's coastline rarely extend as far inland as the project area, and if they do, they usually burn off quickly after sunrise. The most important weather pattern is associated with the warm season airflow across populated areas of the Los Angeles Basin that brings polluted air into western Riverside County late in the afternoon. This transport pattern creates unhealthful air quality when the fringes of this "urban smog cloud" extend to the project site during the summer months.

Temperatures in the project area average a very comfortable 65ºF year-round, with warm summer afternoons (95+ degrees) and often cool winter mornings (around 35 degrees). Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April with summers often completely dry. Rainfall in the Lake Elsinore area averages 11.6 inches per year, but varies markedly from one year to the next.

Winds are an important factor in characterizing the local air quality environment because they both determine the regional pattern of air pollution transport and control the local rate of pollution dispersion. Daytime winds are from the NW at 6-8 mph as air moves regionally onshore from the cool Pacific Ocean to the warm Mojave Desert interior of Southern California. These winds allow for good local mixing, but they may bring air pollutants from urbanized coastal areas into interior valleys. Strong thermal convection in the summer ultimately dilutes the smog cloud from urbanized development, but the project area is too close to Los Angeles Basin emissions sources to completely escape the regional air quality degradation.

Light nocturnal winds result mainly from drainage of cool air off mountains toward the valley floor. Such winds are characterized by stagnation and poor local mixing. However, the origin of these winds in unpopulated mountain areas does not generally impair air quality.

In addition to winds that control the rate and direction of pollution dispersal, Southern California is notorious for strong temperature inversions that limit the vertical depth through which pollution can be mixed. In summer, coastal areas are characterized by a sharp discontinuity between the cool marine air at the surface and the warm, sinking air aloft within the high pressure cell over the ocean to the west. This marine/subsidence inversion allows for good local mixing, but acts like a giant lid over the basin.

A second inversion type forms on clear winter nights when cold air off the mountains sinks to the valley floor while the air aloft over the valley remains warm. This forms radiation inversions. These inversions, in conjunction with calm winds, trap pollutants such as automobile exhaust near their source. While these inversions may lead to air pollution "hot spots" in heavily developed coastal areas of the basin, there is not enough traffic in inland valleys to cause any winter air pollution problems. Thus, while summers are periods of hazy visibility and occasionally unhealthful air, winter is often a period of spectacular visibility and excellent air quality in the project area.

AIR QUALITY SETTING

AMBIENT AIR QUALITY STANDARDS (AAQS)

In order to gauge the significance of the air quality impacts of the proposed TTM 36567 project, those impacts, together with existing background air quality levels, must be compared to the applicable ambient air quality standards. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those people most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise, called "sensitive receptors." Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Recent research has shown, however, that chronic exposure to ozone (the primary ingredient in photochemical smog) may lead to adverse respiratory health even at concentrations close to the ambient standard.

National AAQS were established in 1971 for six pollution species with states retaining the option to add other pollutants, require more stringent compliance, or to include different exposure periods. The initial attainment deadline of 1977 was extended several times in air quality problem areas like Southern California. In 2003, the Environmental Protection Agency (EPA) adopted a rule, which extended and established a new attainment deadline for ozone for the year 2021. Because the State of California had established AAQS several years before the federal action and because of unique air quality problems introduced by the restrictive dispersion meteorology, there is considerable difference between state and national clean air standards. Those standards currently in effect in California are shown in Table 1. Sources and health effects of various pollutants are shown in Table 2.

The Federal Clean Air Act Amendments (CAAA) of 1990 required that the U.S. Environmental Protection Agency (EPA) review all national AAQS in light of currently known health effects. EPA was charged with modifying existing standards or promulgating new ones where appropriate. EPA subsequently developed standards for chronic ozone exposure (8+ hours per day) and for very small diameter particulate matter (called "PM-2.5"). New national AAQS were adopted in 1997 for these pollutants.

Planning and enforcement of the federal standards for PM-2.5 and for ozone (8-hour) were challenged by trucking and manufacturing organizations. In a unanimous decision, the U.S. Supreme Court ruled that EPA did not require specific congressional authorization to adopt national clean air standards. The Court also ruled that health-based standards did not require preparation of a cost-benefit analysis. The Court did find, however, that there was some inconsistency between existing and "new" standards in their required attainment schedules. Such attainment-planning schedule inconsistencies centered mainly on the 8-hour ozone standard. EPA subsequently agreed to downgrade the attainment designation for a large number of communities to “non-attainment” for the 8-hour ozone standard.

Table 1

Ambient Air Quality Standards

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

See footnotes on next page …

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Table 1 (continued)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

9. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

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

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

12. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

13. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

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Table 2
Health Effects of Major Criteria Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	• Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust. • Natural events, such as decomposition of organic matter.	• Reduced tolerance for exercise. • Impairment of mental function. • Impairment of fetal development. • Death at high levels of exposure. • Aggravation of some heart diseases (angina).
Nitrogen Dioxide (NO_2)	• Motor vehicle exhaust. • High temperature stationary combustion. • Atmospheric reactions.	• Aggravation of respiratory illness. • Reduced visibility. • Reduced plant growth. • Formation of acid rain.
Ozone (O_3)	• Atmospheric reaction of organic gases with nitrogen oxides in sunlight.	• Aggravation of respiratory and cardiovascular diseases. • Irritation of eyes. • Impairment of cardiopulmonary function. • Plant leaf injury.
Lead (Pb)	• Contaminated soil.	• Impairment of blood function and nerve construction. • Behavioral and hearing problems in children.
Fine Particulate Matter (PM-10)	• Stationary combustion of solid fuels. • Construction activities. • Industrial processes. • Atmospheric chemical reactions.	• Reduced lung function. • Aggravation of the effects of gaseous pollutants. • Aggravation of respiratory and cardio respiratory diseases. • Increased cough and chest discomfort. • Soiling. • Reduced visibility.
Fine Particulate Matter (PM-2.5)	• Fuel combustion in motor vehicles, equipment, and industrial sources. • Residential and agricultural burning. • Industrial processes. • Also, formed from photochemical reactions of other pollutants, including NOx, sulfur oxides, and organics.	• Increases respiratory disease. • Lung damage. • Cancer and premature death. • Reduces visibility and results in surface soiling.
Sulfur Dioxide (SO_2)	• Combustion of sulfur-containing fossil fuels. • Smelting of sulfur-bearing metal ores. • Industrial processes.	• Aggravation of respiratory diseases (asthma, emphysema). • Reduced lung function. • Irritation of eyes. • Reduced visibility. • Plant injury. • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board, 2002.

Evaluation of the most current data on the health effects of inhalation of fine particulate matter prompted the California Air Resources Board (ARB) to recommend adoption of the statewide PM-2.5 standard that is more stringent than the federal standard. This standard was adopted in 2002. The State PM-2.5 standard is more of a goal in that it does not have specific attainment planning requirements like a federal clean air standard, but only requires continued progress towards attainment.

Similarly, the ARB extensively evaluated health effects of ozone exposure. A new state standard for an 8-hour ozone exposure was adopted in 2005, which aligned with the exposure period for the federal 8-hour standard. The California 8-hour ozone standard of 0.07 ppm is more stringent than the federal 8-hour standard of 0.075 ppm. The state standard, however, does not have a specific attainment deadline. California air quality jurisdictions are required to make steady progress towards attaining state standards, but there are no hard deadlines or any consequences of non-attainment. During the same re-evaluation process, the ARB adopted an annual state standard for nitrogen dioxide ($NO_{2)}$ that is more stringent than the corresponding federal standard, and strengthened the state one-hour NO_2 standard.

As part of EPA's 2002 consent decree on clean air standards, a further review of airborne particulate matter (PM) and human health was initiated. A substantial modification of federal clean air standards for PM was promulgated in 2006. Standards for PM-2.5 were strengthened, a new class of PM in the 2.5 to 10 micron size was created, some PM-10 standards were revoked, and a distinction between rural and urban air quality was adopted. In December, 2012, the federal annual standard for PM-2.5 was reduced from 15 $\mu g/m^3$ to 12 $\mu g/m^3$ which matches the California AAQS. The severity of the basin's non-attainment status for PM-2.5 may be increased by this action and thus require accelerated planning for future PM-2.5 attainment.

In response to continuing evidence that ozone exposure at levels just meeting federal clean air standards is demonstrably unhealthful, EPA had proposed a further strengthening of the 8-hour standard. Draft standards were published. The anticipated future 8-hour standard was 0.065 ppm. Environmental organizations generally praised this proposal. Most manufacturing, transportation or power generation groups opposed the new standard as economically unwise in an uncertain fiscal climate. In recognition of the fact that a stronger ozone standard could adversely impact employment, that proposal has been placed on indefinite hold.

A new federal one-hour standard for nitrogen dioxide (NO_2) has also recently been adopted. This standard is more stringent than the existing state standard. Based upon air quality monitoring data in the South Coast Air Basin, the California Air Resources Board has requested the EPA to designate the basin as being in attainment for this standard. The federal standard for sulfur dioxide (SO_2) was also recently revised. However, with minimal combustion of coal and mandatory use of low sulfur fuels in California, SO_2 is typically not a problem pollutant.

BASELINE AIR QUALITY

Long-term air quality monitoring is carried out by the South Coast Air Quality Management District (SCAQMD) at various monitoring stations. There are no nearby stations that monitor the full spectrum of pollutants. Ozone, carbon monoxide and nitrogen oxides are monitored at the Lake Elsinore facility, while 10-micron diameter particulate matter (PM-10) is measured at the Perris Valley station. The closest data resource for other particulate species is in Riverside. Table 3 summarizes the last five years of monitoring data from a composite of available data resources.

1. Photochemical smog (ozone) levels often exceed standards. The 1-hour state standard was violated of 16 percent of all days in the last five years near Lake Elsinore. The 8-hour state ozone standard has been exceeded 6 percent of all days in the past five years. The Federal eight-hour ozone standard has averaged around 9 percent of the time during this period. While ozone levels are still high, they are much lower than 10 to 20 years ago. Attainment of all clean air standards in the project vicinity is not likely to occur soon, but the severity and frequency of violations is expected to continue to slowly decline during the current decade.

2. Carbon monoxide (CO) measurements at the Lake Elsinore station have declined throughout the last decade. Federal and state CO standards have not been exceeded in the last 10+ years. Despite continued basin-wide growth, maximum one- or 8-hour CO levels at the closest air monitoring station average less the 10 percent of their most stringent standards because of continued vehicular improvements. These data suggests that baseline CO levels in the project area are generally healthful and can accommodate a reasonable level of additional traffic emissions before any adverse air quality effects would be expected.

3. PM-10 levels as measured at Perris, periodically exceed the state 24-hour standard, but no measurements in excess of the national 24-hour particulate standard has been recorded in the last five years. Particulate levels have traditionally been high in Riverside County because of agricultural activities, dry soil conditions and upwind industrial development. State PM-10 standards are exceeded an average of 8 percent of all days per year.

4. A substantial fraction of PM-10 is comprised of ultra-small diameter particulates capable of being inhaled into deep lung tissue (PM-2.5). Year 2010 showed the fewest violations in recent years. Both the frequency of violations of particulate standards, as well as high percentage of PM-2.5, are air quality concerns in the project area. Slightly less than 3 percent of all days exceeded the current national 24-hour standard of 35 $\mu g/m^3$.

5. More localized pollutants such as nitrogen oxides, lead, etc. are very low near the project site because background levels even near downtown Riverside never exceed allowable levels, and there are only limited sources of such emissions near the project site. There is substantial excess dispersive capacity to accommodate localized vehicular air pollutants such as NOx without any threat of violating the applicable standards.

Table 3

Project Area Air Quality Monitoring Summary – 2008-2012
(Days Standards Were Exceeded and Maximum Observed Levels)

Pollutant/Standard	2008	2009	2010	2011	2012
Ozone[1]					
1-Hour > 0.09 ppm (S)	49	24	15	19	10
8-Hour > 0.07 ppm (S)	91	65	40	45	32
8-Hour > 0.075 ppm (F)	69	35	24	28	17
Max. 1-Hour Conc. (ppm)	0.139	0.128	0.107	0.133	0.111
Max. 8-Hour Conc. (ppm)	0.119	0.106	0.092	0.107	0.089
Carbon Monoxide[1]					
1-Hour > 20. ppm (S)	0	0	0	0	0
1-Hour > 9. ppm (S, F)	0	0	0	0	0
Max 1-Hour Conc. (ppm)	1.1	1.0	1.1	2.7	xx
Max 8-Hour Conc. (ppm)	0.8	0.7	0.7	0.7	0.5
Nitrogen Dioxide[1]					
1-Hour > 0.18 ppm (S)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.055	0.055	0.051	0.050	0.048
Inhalable Particulates (PM-10)[2]					
24-Hour > 50 $\mu g/m^3$ (S)	8/45	6/58	0/61	2/60	1/xx
24-Hour > 150 $\mu g/m^3$ (F)	0/45	0/58	0/61	0/60	0/xx
Max. 24-Hr. Conc. ($\mu g/m^3$)	87.	76.	48.	62.	58.
Ultra-Fine Particulates (PM-2.5)[3]					
24-Hour > 35 $\mu g/m^3$ (F)	14/342	15/364	4/365	5/365	7/xx
Max. 24-Hr. Conc. ($\mu g/m^3$)	57.6	54.4	58.5	73.7	39.9

xx=data not available

S=State Standard
F=Federal Standard

Source: South Coast AQMD – Source: South Coast AQMD – [1]Lake Elsinore, [2]Perris and [3]Rubidoux Air Monitoring Station Data Summaries.
data: WWW.ARB.CA.GOV/ADAM/

AIR QUALITY PLANNING

The Federal Clean Air Act (1977 Amendments) required that designated agencies in any area of the nation not meeting national clean air standards must prepare a plan demonstrating the steps that would bring the area into compliance with all national standards. The SCAB could not meet the deadlines for ozone, nitrogen dioxide, carbon monoxide, or PM-10. In the SCAB, the agencies designated by the governor to develop regional air quality plans are the SCAQMD and the Southern California Association of Governments (SCAG). The two agencies first adopted an Air Quality Management Plan (AQMP) in 1979 and revised it several times as earlier attainment forecasts were shown to be overly optimistic.

The 1990 Federal Clean Air Act Amendment (CAAA) required that all states with air-sheds with "serious" or worse ozone problems submit a revision to the State Implementation Plan (SIP). Amendments to the SIP have been proposed, revised and approved over the past decade. The most current regional attainment emissions forecast for ozone precursors (ROG and NOx) and for carbon monoxide (CO) and for particulate matter are shown in Table 4. Substantial reductions in emissions of ROG, NOx and CO are forecast to continue throughout the next several decades. Unless new particulate control programs are implemented, PM-10 and PM-2.5 are forecast to slightly increase.

The Air Quality Management District (AQMD) adopted an updated clean air "blueprint" in August 2003. The 2003 Air Quality Management Plan (AQMP) was approved by the EPA in 2004. The AQMP outlined the air pollution measures needed to meet federal health-based standards for ozone by 2010 and for particulates (PM-10) by 2006. The 2003 AQMP was based upon the federal one-hour ozone standard which was revoked late in 2005 and replaced by an 8-hour federal standard. Because of the revocation of the hourly standard, a new air quality planning cycle was initiated.

With re-designation of the air basin as non-attainment for the 8-hour ozone standard, a new attainment plan was developed. This plan shifted most of the one-hour ozone standard attainment strategies to the 8-hour standard. As previously noted, the attainment date was to "slip" from 2010 to 2021. The updated attainment plan also includes strategies for ultimately meeting the federal PM-2.5 standard.

Because projected attainment by 2021 requires control technologies that do not exist yet, the SCAQMD requested a voluntary "bump-up" from a "severe non-attainment" area to an "extreme non-attainment" designation for ozone. The extreme designation will allow a longer time period for these technologies to develop. If attainment cannot be demonstrated within the specified deadline without relying on "black-box" measures, EPA would have been required to impose sanctions on the region had the bump-up request not been approved. In April 2010, the EPA approved the change in the non-attainment designation from "severe-17" to "extreme." This reclassification sets a later attainment deadline (2024), but also requires the air basin to adopt even more stringent emissions controls.

Table 4

South Coast Air Basin Emissions Forecasts (Emissions in tons/day)

Pollutant	2008[a]	2010[b]	2015[b]	2020[b]
NOx	917	836	667	561
ROG	632	596	545	525
CO	3,344	3,039	2,556	2,281
PM-10	308	314	328	340
PM-2.5	110	110	111	113

[a]2008 Base Year.
[b]With current emissions reduction programs and adopted growth forecasts.

Source: California Air Resources Board, California Emissions Projection Analysis Model, 2009

In other air quality attainment plan reviews, EPA has disapproved part of the SCAB PM-2.5 attainment plan included in the AQMP. EPA has stated that the current attainment plan relies on PM-2.5 control regulations that have not yet been approved or implemented. It is expected that a number of rules that are pending approval will remove the identified deficiencies. If these issues are not resolved within the next several years, federal funding sanctions for transportation projects could result. The recently adopted 2012 AQMP being readied for ARB submittal to EPA as part of the California State Implementation Plan (SIP) is expected to remedy identified PM-2.5 planning deficiencies.

The federal Clean Air Act requires that non-attainment air basins have EPA approved attainment plans in place. This requirement includes the federal one-hour ozone standard even though that standard was revoked around seven years ago. There was no approved attainment plan for the one-hour federal standard at the time of revocation. Through a legal quirk, the SCAQMD is now forced to develop an AQMP for the long since revoked one-hour federal ozone standard.

Projects such as TTM 36567 do not directly relate to the AQMP in that there are no specific air quality programs or regulations governing general development. Conformity with adopted plans, forecasts and programs relative to population, housing, employment and land use is the primary yardstick by which impact significance of planned growth is determined. The SCAQMD, however, while acknowledging that the AQMP is a growth-accommodating document, does not favor designating regional impacts as less-than-significant just because the proposed development is consistent with regional growth projections. Air quality impact significance for the proposed project has therefore been analyzed on a project-specific basis.

AIR QUALITY IMPACT

STANDARDS OF SIGNIFICANCE

Air quality impacts are considered "significant" if they cause clean air standards to be violated where they are currently met, or if they "substantially" contribute to an existing violation of standards. Any substantial emissions of air contaminants for which there is no safe exposure, or nuisance emissions such as dust or odors, would also be considered a significant impact.

Appendix G of the California CEQA Guidelines offers the following five tests of air quality impact significance. A project would have a potentially significant impact if it:

a. Conflicts with or obstructs implementation of the applicable air quality plan.

b. Violates any air quality standard or contributes substantially to an existing or projected air quality violation.

c. Results in a cumulatively considerable net increase of any criteria pollutants for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

d. Exposes sensitive receptors to substantial pollutant concentrations.

e. Creates objectionable odors affecting a substantial number of people.

Primary Pollutants

Air quality impacts generally occur on two scales of motion. Near an individual source of emissions or a collection of sources such as a crowded intersection or parking lot, levels of those pollutants that are emitted in their already unhealthful form will be highest. Carbon monoxide (CO) is an example of such a pollutant. Primary pollutant impacts can generally be evaluated directly in comparison to appropriate clean air standards. Violations of these standards where they are currently met, or a measurable worsening of an existing or future violation, would be considered a significant impact. Many particulates, especially fugitive dust emissions, are also primary pollutants. Because of the non-attainment status of the South Coast Air Basin (SCAB) for PM-10, an aggressive dust control program is required to control fugitive dust during project construction.

Secondary Pollutants

Many pollutants, however, require time to transform from a more benign form to a more unhealthful contaminant. Their impact occurs regionally far from the source. Their incremental regional impact is minute on an individual basis and cannot be quantified except through complex photochemical computer models. Analysis of significance of such emissions is based

upon a specified amount of emissions (pounds, tons, etc.) even though there is no way to translate those emissions directly into a corresponding ambient air quality impact.

Because of the chemical complexity of primary versus secondary pollutants, the SCAQMD has designated significant emissions levels as surrogates for evaluating regional air quality impact significance independent of chemical transformation processes. Projects with daily emissions that exceed any of the following emission thresholds are recommended by the SCAQMD to be considered significant under CEQA guidelines.

Daily Emissions Thresholds

Pollutant	Construction	Operations
ROG	75	55
NOx	100	55
CO	550	550
PM-10	150	150
PM-2.5	55	55
SOx	150	150
Lead	3	3

Source: SCAQMD CEQA Air Quality Handbook, November, 1993 Rev.

Additional Indicators

In its CEQA Handbook, the SCAQMD also states that additional indicators should be used as screening criteria to determine the need for further analysis with respect to air quality. The additional indicators are as follows:

- Project could interfere with the attainment of the federal or state ambient air quality standards by either violating or contributing to an existing or projected air quality violation

- Project could result in population increases within the regional statistical area which would be in excess of that projected in the AQMP and in other than planned locations for the project's build-out year.

- Project could generate vehicle trips that cause a CO hot spot.

The SCAQMD CEQA Handbook also identifies various secondary significance criteria related to toxic, hazardous or odorous air contaminants. Except for the small diameter particulate matter ("PM-2.5") fraction of diesel exhaust generated by heavy construction equipment, there are no secondary impact indicators associated with residential project construction and subsequent occupancy.
For diesel particulate matter (DPM) exhaust emissions, adopted policies require the gradual conversion of delivery fleets to diesel alternatives, or the use of cleaner diesel engines whose

emissions are demonstrated to be as low as those from alternative fuels. Similarly, off-road equipment used in construction activities is also becoming progressively cleaner every year. If phased project development occurs in the more distant future, DPM emissions from project construction equipment will be correspondingly less. Because health risks from toxic air contaminants (TAC's) are cumulative over an assumed 70-year lifespan, measurable off-site public health risk from diesel TAC exposure would occur for only a brief portion of a project lifetime, and only in dilute quantity.

SENSITIVE RECEPTORS

Air quality impacts are analyzed relative to those persons with the greatest sensitivity to air pollution exposure. Such persons are called "sensitive receptors." Sensitive population groups include young children, the elderly and the acutely and chronically ill (especially those with cardio-respiratory disease).

Residential areas are considered to be sensitive to air pollution exposure because they may be occupied for extended periods, and residents may be outdoors when exposure is highest. Schools are similarly considered to be sensitive receptors. The closest existing sensitive use to the proposed project is approximately 2,400 feet to the east, within the Tuscany Hills residential community. It is possible that parts of Spyglass Ranch could be constructed and occupied before South Shore II is built. The separation distance between the project and the closest sensitive receptor could decrease. Because CEQA requires impact analysis to be performed relative to existing environmental conditions, no conjectural adjustments were made of sensitive receptor locations.

IMPACT ANALYSIS

CONSTRUCTION ACTIVITY IMPACTS

Dust is typically the primary concern during construction of new homes and infrastructure. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions." Emission rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). These parameters are not known with any reasonable certainty prior to project development and may change from day to day. Any assignment of specific parameters to an unknown future date is speculative and conjectural.

Because of the inherent uncertainty in the predictive factors for estimating fugitive dust generation, regulatory agencies typically use one universal "default" factor based on the area disturbed assuming that all other input parameters into emission rate prediction fall into midrange average values. This assumption may or may not be totally applicable to site-specific conditions on the proposed project site. As noted previously, emissions estimation for project-specific fugitive dust sources is therefore characterized by a considerable degree of imprecision.

Average daily PM-10 emissions during site grading and other disturbance average about 10 pounds per acre. This estimate presumes the use of reasonably available control measures (RACMs). The SCAQMD requires the use of best available control measures (BACMs) for fugitive dust from construction activities. With the use of BACMs, fugitive dust emissions can be reduced to 1-2 pounds per day per acre disturbed.

Current research in particulate-exposure health suggests that the most adverse effects derive from ultra-small diameter particulate matter comprised of chemically reactive pollutants such as sulfates, nitrates or organic material. A national clean air standard for particulate matter of 2.5 microns or smaller in diameter (called "PM-2.5") was adopted in 1997. A limited amount of construction activity particulate matter is in the PM-2.5 range. PM-2.5 emissions are estimated to comprise 10-20 percent of PM-10.

In addition to fine particles that remain suspended in the atmosphere semi-indefinitely, construction activities generate many larger particles with shorter atmospheric residence times. This dust is comprised mainly of large diameter inert silicates that are chemically non-reactive and are further readily filtered out by human breathing passages. These fugitive dust particles are therefore more of a potential soiling nuisance as they settle out on parked cars, outdoor furniture or landscape foliage rather than causing any adverse health hazard.

The CalEEMod was developed by the SCAQMD and provides a model to calculate both construction emissions and operational emissions from a residential or commercial land use project. It calculates both the daily maximum and annual average emissions for criteria pollutants as well as total or annual greenhouse gas (GHG) emissions. The CalEEMod 2013.2 computer model was used to calculate emissions from the default construction equipment fleet and schedule anticipated by CalEEMod for a single family residential land use consisting of 147

units. The project build-out schedule will depend somewhat on market demand; however, for this analysis it was assumed that the entire project would be built at once. This provides a worst case air quality scenario as daily emissions would be higher than if they were spread out for a longer time frame.

The default equipment fleet and schedule durations assumed by CalEEMod that were used for modeling are shown in the appendix of this report. Utilizing the prototype equipment fleet and construction schedule the following worst case daily emissions were calculated by CalEEMod as shown in Table 5.

Table 5
Construction Activity Emissions
Maximum Daily Emissions (pounds/day)

Maximal Construction Emissions	**ROG**	**NOx**	**CO**	**SO_2**	**PM-10**	**PM-2.5**
2015						
Unmitigated	7.2	79.2	52.3	0.1	21.4	12.9
Mitigated	7.2	79.2	52.3	0.1	10.3	6.8
2016						
Unmitigated	4.7	30.2	23.5	0.0	2.7	2.1
Mitigated	4.7	30.2	23.5	0.0	2.7	2.1
2017						
Unmitigated	4.3	27.9	22.7	0.0	2.5	1.9
Mitigated	4.3	27.9	22.7	0.0	2.5	1.9
2018						
Unmitigated	38.1	24.6	21.7	0.0	2.2	1.6
Mitigated	38.1	24.6	21.7	0.0	2.2	1.6
SCAQMD Thresholds	75	100	550	150	150	55

Peak daily construction activity emissions are estimated to be below SCAQMD CEQA thresholds without the need for added mitigation. The only model-based mitigation measure applied for this project was watering exposed dirt surfaces at least three times per day as required per SCAQMD Rule 403 (Fugitive Dust), to minimize the generation of fugitive dust.

Construction equipment exhaust contains carcinogenic compounds within the diesel exhaust particulates. The toxicity of diesel exhaust is evaluated relative to a 24-hour per day, 365 days per year, 70-year lifetime exposure. The SCAQMD does not generally require the analysis of construction-related diesel emissions relative to health risk due to the short period for which the

majority of diesel exhaust would occur. This conclusion is reinforced for the proposed project because there are no existing sensitive receptors within an almost one-half mile radius.

LST ANALYSIS

The SCAQMD has developed analysis parameters to evaluate ambient air quality on a local level in addition to the more regional emissions-based thresholds of significance. These analysis elements are called Localized Significance Thresholds (LSTs). LSTs were developed in response to Governing Board's Environmental Justice Enhancement Initiative 1-4 and the LST methodology was provisionally adopted in October 2003 and formally approved by SCAQMD's Mobile Source Committee in February 2005.

Use of an LST analysis for a project is optional. For the proposed project, the primary source of possible LST impact would be during construction. LSTs are applicable for a sensitive receptor where it is possible that an individual could remain for 24 hours such as a residence, hospital or convalescent facility.

LST screening tables are available for 25, 50, 100, 200 and 500 meter source-receptor distances. For this project the nearest sensitive use would be the residences 2,400 feet east of the project site and the maximal distance of 500 meters was selected for analysis.

LSTs are only applicable to the following criteria pollutants: oxides of nitrogen (NOx), carbon monoxide (CO), and particulate matter (PM-10 and PM-2.5). LSTs represent the maximum emissions from a project that are not expected to cause or contribute measurably to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

The SCAQMD has issued guidance on applying CalEEMod to LSTs. LST pollutant screening level concentration data is currently published for 1, 2 and 5 acre disturbance sites for varying distances. Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity possible for each piece of equipment, the following tables should be used to determine the maximum daily disturbed-acreage for comparison to LSTs.

Maximum Daily Disturbed Acreage per Equipment Type

Equipment Type	Acres/8-hr-day
Crawler Tractor	0.5
Graders	0.5
Rubber Tired Dozers	0.5
Scrapers	1

Based on this table, and the CalEEMod default equipment fleet for a 147-unit residential subdivision, the proposed project will result in 3 disturbed daily acres during peak construction grading activity:

(1 dozer x 0.5 + 1 grader x 0.5 x 2 scrapers x 1.0 = 3 acres disturbed).

The applicable thresholds and emissions are shown in Table 6.

Table 6
LST and Project Emissions (pounds/day)

LST 3.0 acres/ 500 meters Lake Elsinore	**CO**	**NOx**	**PM-10**	**PM-2.5**
Max On-Site Emissions *	26,693	985	193	95
Site Prep				
Unmitigated	43	57	18	10
Mitigated	43	57	10	7
Grading				
Unmitigated	51	79	12	7
Mitigated	51	79	7	5
Construction				
Unmitigated	19	29	2	2
Mitigated	19	29	2	2
Paving				
Unmitigated	14	17	1	1
Mitigated	14	17	1	1

CalEEMod Output in Appendix
*excludes construction commuting, vendor deliveries and emissions associated with haul trucking.

LSTs were compared to the maximum daily construction activities. As seen above, emissions are below the LST thresholds for construction. LST impacts are less-than-significant. The only mitigation measure applied was the following dust suppression measure:

- Water exposed surfaces at least 3 times per day for fugitive dust suppression

OPERATIONAL IMPACTS

Project uses would generate 1,399 daily trips according to trip generation estimates provided by the project traffic consultant. Operational emissions for the proposed uses were calculated using CalEEMod2013.2. for a project build-out year of 2018 (based on the default CalEEMod construction schedule and a start year of 2015). Though total project build-out could occur later than 2018 due to market demand, this provides a worst case estimate. In the future, CalEEMod assumes vehicular travel (which comprises the major component of project emissions) becomes progressively cleaner and therefore mobile source operational emissions would be lower than those modeled here. Operational emissions for the proposed residential use assume inclusion of gas hearths rather than wood burning fireplaces and are shown in Table 7.

The operational emissions were calculated for the proposed use as shown in Table 7.

Table 7
Daily Operational Impacts

	Operational Emissions (lbs/day)						
Source	**ROG**	**NOx**	**CO**	**SO_2**	**PM-10**	**PM-2.5**	**CO2**
Area	6.4	0.1	12.2	0.0	0.2	0.2	2,841.0
Energy	0.1	1.3	0.5	0.0	0.1	0.1	1,609.6
Mobile	14.6	13.5	54.3	0.2	10.4	2.9	12,545.2
Total	**21.2**	**14.9**	**67.1**	**0.2**	**10.7**	**3.2**	**16,995.8**
SCAQMD Threshold	55	55	550	150	150	55	-
Exceeds Threshold?	No	No	No	No	No	No	NA

Source: CalEEMod Output in Appendix

The project would not cause any operational emissions to exceed their respective SCAQMD CEQA significance thresholds. Operational emission impacts are judged to be less than significant.

MICROSCALE IMPACT ANALYSIS

There is a direct relationship between traffic/circulation congestion and CO impacts since exhaust fumes from vehicular traffic are the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source (intersection) increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections. These areas of vehicle congestion have the potential to create pockets of elevated levels of CO which are called “hot spots “.

Micro-scale air quality impacts have traditionally been analyzed in environmental documents when the air basin was a non-attainment area for carbon monoxide (CO). However, the SCAQMD has demonstrated in the CO attainment redesignation request to EPA that there are no “hot spots”, i.e., locations where emission concentrations expose individuals to elevated risks of adverse health effects, anywhere in the SCAB.

To verify this conclusion, a CO screening analysis was performed at a variety of nearby intersections for which the project traffic report provided data. The one-hour CO concentration was calculated on the sidewalk adjacent to these intersections. The maximum opening year 1-hour CO exposure is estimated to be 3.4 ppm. The significance of localized project impacts depends on whether the project would cause substantial concentrations of CO. A project is considered to have significant impacts if project-related mobile-source emissions result in an exceedance of the California one-hour and eight-hour CO standards, which are:

- 1-hour = 20 ppm
- 8-hour = 9 ppm

Calculations were made for existing traffic time frame with and without project for the morning and evening peak hours. The results of the microscale impact analysis are shown in Tables 8a and 8b.

The existing peak one-hour local CO background level in 2011 in the project area vicinity was 2.7 ppm. With project implementation, in the existing time frame, inclusive of the local concentration, maximum one-hour concentration is estimated to be 3.2 ppm, which is well below the one-hour standard of 20 ppm. The 8-hour concentration was derived from hourly data presuming a 60 percent persistence factor of the a.m. or p.m. 1-hour peak. The maximum ambient 8-hour CO concentration in 2011 was 0.7 ppm. Maximum with project 8-hour CO concentration of 1.1 ppm (inclusive of the background concentration) were compared to the 9 ppm significance threshold. Micro-scale air quality impacts are not significant.

Table 8a
One-Hour CO Concentrations (ppm) *

Intersections		**Existing No Project**	**Existing + Project**	**Existing + Project + Ambient Growth**	**Opening Year No Project**	**Opening Year + Project**
AM Peak Hour						
Main St./	Camino del Norte	2.9	2.9	2.9	3.1	3.1
	I-15 NB Ramps	3.0	3.0	3.0	3.2	3.2
	I-15 SB Ramps	-	3.0	3.0	3.2	3.2
Elsinore Hills Dr./	Street “C”	-	2.7	2.7	2.8	2.8
	Street “D”	-	2.7	2.7	3.0	3.0
	Camino del Norte	-	2.7	2.7	3.0	3.0
PM Peak Hour						
Main St./	Camino del Norte	2.9	2.9	2.9	3.3	3.4
	I-15 NB Ramps	2.9	3.0	3.0	3.1	3.1
	I-15 SB Ramps	3.1	3.1	3.2	3.2	3.2
Elsinore Hills Dr./	Street “C”	-	2.7	2.7	2.9	2.9
	Street “D”	-	2.8	2.8	2.9	3.0
	Camino del Norte	-	2.8	2.8	3.1	3.1

*including 2.7 ppm maximum background concentration – Standard = 20 ppm

Table 8b
Eight-Hour CO Concentrations (ppm) *

Intersections		**Existing No Project**	**Existing + Project**	**Existing + Project + Ambient Growth**	**Opening Year No Project**	**Opening Year + Project**
Main St./	Camino del Norte	0.8	0.8	0.8	1.1	1.1
	I-15 NB Ramps	0.8	0.9	0.9	0.9	0.9
	I-15 SB Ramps	0.9	0.9	1.0	1.0	1.0
Elsinore Hills Dr./	Street “C”	-	0.7	0.7	0.8	0.8
	Street “D”	-	0.8	0.8	0.8	0.9
	Camino del Norte	-	0.8	0.8	0.9	0.9

*including 0.7 ppm maximum background concentration - Standard = 9 ppm

ODOR IMPACTS

The project site is located directly north of the Elsinore Sanitary Landfill. The landfill was closed in 1986. A landfill gas collection and combustion system continues to operate although a substantial traction of any biodegradable waste has long completed its decay cycle in the last 27+ years. There are no known odor complaints from the existing residential community most often downwind of the closed landfill. Except for occasional technical visits to obtain water samples from four monitoring wells or maintenance to the gas collection blower or the waste gas burner, there are no activities on the landfill that would impact the surrounding community.

CONSTRUCTION EMISSIONS MITIGATION

Construction activities are not anticipated to cause dust emissions to exceed SCAQMD CEQA thresholds. Nevertheless, mitigation through enhanced dust control measures is recommended for use because of the non-attainment status of the air basin. Recommended mitigation includes:

Fugitive Dust Control

- Apply soil stabilizers or moisten inactive disturbed areas.
- Prepare and implement a high wind dust control plan.
- Stabilize previously disturbed areas if subsequent construction is delayed.
- Apply water three times daily, or non-toxic soil stabilizers according to manufacturers' specifications, to all unpaved parking or staging areas, unpaved road surfaces, and active construction areas.
- Cover all stock piles with tarps at the end of each day or as needed.
- Provide water spray during loading and unloading of earthen materials.
- Minimize in-out traffic from construction zone
- Cover all trucks hauling dirt, sand, or loose material or require all trucks to maintain at least two feet of freeboard
- Sweep streets daily if visible soil material is carried out from the construction site

Similarly, ozone precursor emissions (ROG and NOx) are calculated to be below SCAQMD CEQA thresholds. However, because of the regional non-attainment for photochemical smog, the use of reasonably available control measures for diesel exhaust is recommended. Suggested combustion emissions control includes:

Exhaust Emissions Control

- Utilize well-tuned off-road construction equipment.
- Establish a preference for contractors using Tier 3 or cleaner heavy equipment.
- Enforce 5-minute idling limits for both on-road trucks and off-road equipment.

OPERATIONAL EMISSIONS MITIGATION

Operational emissions are not anticipated to exceed their respective SCAQMD significance thresholds with application of the following measure:

- Utilize gas hearths rather than wood burning fireplaces for any residential use.

GREENHOUSE GAS EMISSIONS

"Greenhouse gases" (so called because of their role in trapping heat near the surface of the earth) emitted by human activity are implicated in global climate change, commonly referred to as "global warming." These greenhouse gases contribute to an increase in the temperature of the earth's atmosphere by transparency to short wavelength visible sunlight, but near opacity to outgoing terrestrial long wavelength heat radiation in some parts of the infrared spectrum. The principal greenhouse gases (GHGs) are carbon dioxide, methane, nitrous oxide, ozone, and water vapor. For purposes of planning and regulation, Section 15364.5 of the California Code of Regulations defines GHGs to include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of GHG emissions, accounting for approximately half of GHG emissions globally. Industrial and commercial sources are the second largest contributors of GHG emissions with about one-fourth of total emissions.

California has passed several bills and the Governor has signed at least three executive orders regarding greenhouse gases. GHG statues and executive orders (EO) include AB 32, SB 1368, EO S-03-05, EO S-20-06 and EO S-01-07.

AB 32 is one of the most significant pieces of environmental legislation that California has adopted. Among other things, it is designed to maintain California's reputation as a "national and international leader on energy conservation and environmental stewardship." It will have wide-ranging effects on California businesses and lifestyles as well as far reaching effects on other states and countries. A unique aspect of AB 32, beyond its broad and wide-ranging mandatory provisions and dramatic GHG reductions are the short time frames within which it must be implemented. Major components of the AB 32 include:

- Require the monitoring and reporting of GHG emissions beginning with sources or categories of sources that contribute the most to statewide emissions.
- Requires immediate "early action" control programs on the most readily controlled GHG sources.
- Mandates that by 2020, California's GHG emissions be reduced to 1990 levels.
- Forces an overall reduction of GHG gases in California by 25-40%, from business as usual, to be achieved by 2020.
- Must complement efforts to achieve and maintain federal and state ambient air quality standards and to reduce toxic air contaminants.

Statewide, the framework for developing the implementing regulations for AB 32 is under way. Maximum GHG reductions are expected to derive from increased vehicle fuel efficiency, from greater use of renewable energy and from increased structural energy efficiency. Additionally, through the California Climate Action Registry (CCAR now called the Climate Action Reserve),

general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e. company owned) and indirect sources (i.e. not company owned). Direct sources include combustion emissions from on-and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

Greenhouse Gas Emissions Significance Thresholds

In response to the requirements of SB97, the State Resources Agency developed guidelines for the treatment of GHG emissions under CEQA. These new guidelines became state laws as part of Title 14 of the California Code of Regulations in March, 2010. The CEQA Appendix G guidelines were modified to include GHG as a required analysis element. A project would have a potentially significant impact if it:

- Generates GHG emissions, directly or indirectly, that may have a significant impact on the environment, or,

- Conflicts with an applicable plan, policy or regulation adopted to reduce GHG emissions.

Section 15064.4 of the Code specifies how significance of GHG emissions is to be evaluated. The process is broken down into quantification of project-related GHG emissions, making a determination of significance, and specification of any appropriate mitigation if impacts are found to be potentially significant. At each of these steps, the new GHG guidelines afford the lead agency with substantial flexibility.

Emissions identification may be quantitative, qualitative or based on performance standards. CEQA guidelines allow the lead agency to "select the model or methodology it considers most appropriate." The most common practice for transportation/combustion GHG emissions quantification is to use a computer model such as CalEEMod, as was used in the ensuing analysis.

The significance of those emissions then must be evaluated; the selection of a threshold of significance must take into consideration what level of GHG emissions would be cumulatively considerable. The guidelines are clear that they do not support a zero net emissions threshold. If the lead agency does not have sufficient expertise in evaluating GHG impacts, it may rely on thresholds adopted by an agency with greater expertise.

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects where the SCAQMD is the lead agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 Metric Tons (MT) CO_2 equivalent/year. In September 2010, the Working Group released revisions which recommended a threshold of 3,500 MT CO_2e for residential projects. This 3,500 MT/year recommendation has been used as a guideline for this analysis.

PROJECT RELATED GHG EMISSIONS GENERATION

Construction Activity GHG Emissions

The build-out timetable for this project is estimated by CalEEMod to be slightly less than 4 years. During project construction, the CalEEMod2013.2 computer model predicts that the construction activities will generate the annual CO_2(e) emissions identified below.

Construction Emissions (Metric Tons CO_2(e))

	CO_2(e)
Year 2015	549.5
Year 2016	430.0
Year 2017	421.0
Year 2018	170.5
Overall Total	**1,570.1**
Amortized	**52.3**

*CalEEMod Output provided in appendix

SCAQMD GHG emissions policy from construction activities is to amortize emissions over a 30-year lifetime. The amortized level is also provided. GHG impacts from construction are considered individually less-than-significant.

Project Operational GHG Emissions

The input assumptions for operational GHG emissions calculations, and the GHG conversion from consumption to annual regional CO_2(e) emissions are summarized in the CalEEMod2013.2 output files found in the appendix of this report.

The total operational and annualized construction emissions are identified below.

Operational Emissions

Consumption Source	**MT CO_2(e) tons/year**
Area Sources	34.5
Energy Utilization	590.8
Mobile Source	1,971.4
Solid Waste Generation	78.3
Water Consumption	67.0
Annualized Construction	52.3
Total	**2,794.3**
Significance Threshold	3,500

Total annual project GHG emissions are less than the proposed significance threshold of 3,500 MT. GHG emissions impacts for the proposed project are less than significant.

CONSISTENCY WITH GHG PLANS, PROGRAMS AND POLICIES

A determination of project consistency with GHG plans, programs and policies is often difficult because there are multiple governing jurisdictions with a wide array of implementation responsibilities. This process is somewhat streamlined in Lake Elsinore through the existence of a climate action plan (CAP) adopted in late 2011. The CAP incorporates all the applicable GHG plans, programs and policies. Project consistency with the CAP is presumptive evidence of consistency with all applicable state and local GHG emissions reduction requirements.

The City of Lake Elsinore CAP is a long-range plan to reduce community- wide greenhouse gas (GHG) emissions from activities within the City limits. The CAP is designed to establish GHG emissions reduction strategies and measures to reduce the City's proportionate share of emissions to meet the statewide targets identified in Assembly Bill (AB) 32 and Executive Order S-3-05.

The CAP is not intended to limit future development or economic growth within Lake Elsinore, nor is it intended to stop any individual project (as prescribed by the City's General Plan) from moving forward. The CAP is a strategy for Lake Elsinore to grow in a sustainable way that meets GHG reduction targets.

The CAP identifies a combination of state-level regulations and local strategies and measures in the focus areas of Transportation and Land Use, Energy, Solid Waste, and Public Education and Outreach. Each focus area includes emissions reduction strategies with a series of implementation measures. Measures define the programs, policies, and projects that the City will implement to accomplish its reduction targets. Each measure is presented with its GHG emissions reduction potential, performance criteria to track progress, and estimated implementation costs and savings.

Transportation and Land Use

Transportation-related emissions make up the largest part of Lake Elsinore's GHG emissions inventory. The majority of these emissions result from the use of fuel (e.g., gasoline, diesel, etc.) to power cars and trucks within Lake Elsinore. The transportation and land use emissions reduction measures set forth in the CAP are organized under the following strategies to reduce transportation-related emissions:

- Increase bicycle, pedestrian and public transit travel
- Manage vehicle parking
- Increase efficiency of land use patterns
- Reduce trips
- Increase the use of low- and zero-emissions vehicles

Enegy

Energy-related emissions make up the second largest part of Lake Elsinore's emissions inventory. These emissions result from use of fossil fuels, including coal, oil and gas for energy production, which is used to heat, cool and provide power to residential, commercial and

industrial buildings. The energy-related reduction measures set forth in the CAP are organized under the following strategies to reduce energy- related emissions:

- Increase energy efficiency of new construction
- Increase energy efficiency of existing buildings
- Increase energy efficiency of municipal buildings and facilities
- Reduce water consumption
- Increase the use of renewable energy

Solid Waste

Solid waste results in GHG emissions as it is transported to and decomposes in landfills. The solid waste-related reduction measures set forth in the CAP are organized under the following strategies to reduce related emissions:

- Increase solid waste diversion
- Decrease solid waste generated

Community Education and Outreach

Education and outreach are key components of climate action planning because of the changes in citizen behavior that are needed to reduce emissions. The community education and outreach measures identified in the CAP are organized under the following strategy:

- Expand community education and outreach

In order to ensure that Lake Elsinore is achieving its targeted level of emissions, City staff will monitor plan performance over time and alter or amend the plan if it is not achieving the proposed reduction targets. This will enable the City to identify any need for adjustments to the emissions reduction measures.

As noted above, the CAP is not intended to be a mechanism to limit planned growth. Its purpose is to minimize the carbon footprint of that growth through reasonably available control measures. The process of evaluating CAP consistency for an individual project proceeds as follows:

1. Is the project consistent with the General Plan land use designation?

2. Is the project consistent with the General Plan population and employment projections for the site, upon which the CAP modeling is based?

3. Does the project incorporate the applicable CAP measures as binding and enforceable components of the project? Until these measures have been formally adopted by the City and incorporated in to applicable codes, the requirements must be incorporated as mitigation measures applicable to the project (CEQA Guidelines, Section 15183.5(b)(2)).

The CAP Implementation Plan (CAP, Chapter 6.1) contains 38 separate measures. Only a few can be directly incorporated into a residential subdivision with any substantial GHG reduction benefit from the business-as-usual baseline. Those measures that should be included into project planning to achieve CAP consistency include:

Measure T-1.2	Provide pedestrian infrastructure within the development
Measure T-1.4	Insure project connectivity to any area wide bikeway networks
Measure E-1.1	Provide 15-gallon umbrella-form trees on landscaped slopes or at a future park site
Measure E-1.3	Construct new homes to exceed the California Energy Code requirements by 15% based on the 2008 Energy Efficiency standards as a baseline.
Measure E-4.2	Comply with any anticipated City Uniform Building Code requirements to reduce indoor water consumption by 30% from the existing default baseline

With incorporation of these measures into project design to the extent feasible, one may conclude that the proposed project is consistent with applicable plans, policies and regulations adopted to reduce GHG emissions.

APPENDIX

CalEEMod2013.2 Computer Model Output

TT 36567 South Shore II

South Coast AQMD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	147.00	Dwelling Unit	47.73	264,600.00	420

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Site Prep: 30 days, Grading: 75 days, Construction: 740 days, Paving 55 days

Vehicle Trips - Trip generation rates per project traffic report

Construction Off-road Equipment Mitigation -

Area Mitigation -

Off-road Equipment - Site Prep: 3 dozers, 4 loader/backhoes

Off-road Equipment - Grading: 2 excavators, 1 grader, 1 dozer, 2 scrapers, 2 loader/backhoes

Off-road Equipment - Construction: 1 crane, 3 forklifts, 1 gen set, 3 loader/backhoes, 1 welder

Off-road Equipment - Paving: 2 pavers, 2 paving equipment, 2 rollers

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	WD_TR	9.57	9.52

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	7.2073	79.1625	52.2758	0.0646	18.2675	3.8041	21.3575	9.9840	3.4998	12.8269	0.0000	6,732.6230	6,732.6230	1.9497	0.0000	6,773.5663
2016	4.7126	30.1650	23.5452	0.0378	0.6924	1.9951	2.6875	0.1856	1.8739	2.0595	0.0000	3,648.5456	3,648.5456	0.6969	0.0000	3,663.1797
2017	4.3086	27.9130	22.7438	0.0378	0.6924	1.8063	2.4987	0.1856	1.6960	1.8816	0.0000	3,589.2860	3,589.2860	0.6820	0.0000	3,603.6070
2018	38.1193	24.6415	21.7909	0.0378	0.6925	1.5180	2.2105	0.1856	1.4267	1.6123	0.0000	3,531.1015	3,531.1015	0.7068	0.0000	3,545.9448
Total	**54.3478**	**161.8820**	**120.3558**	**0.1779**	**20.3448**	**9.1235**	**28.7542**	**10.5408**	**8.4964**	**18.3803**	**0.0000**	**17,501.5562**	**17,501.5562**	**4.0353**	**0.0000**	**17,586.2979**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2015	7.2011	79.0900	52.2292	0.0645	7.2470	3.8007	10.3343	3.9263	3.4966	6.7666	0.0000	6,726.6723	6,726.6723	1.9479	0.0000	6,767.5782
2016	4.7095	30.1389	23.5282	0.0378	0.6924	1.9933	2.6857	0.1856	1.8722	2.0578	0.0000	3,646.0967	3,646.0967	0.6963	0.0000	3,660.7181
2017	4.3058	27.8887	22.7272	0.0378	0.6924	1.8046	2.4971	0.1856	1.6945	1.8801	0.0000	3,586.8641	3,586.8641	0.6814	0.0000	3,601.1726
2018	38.1190	24.6202	21.7748	0.0378	0.6925	1.5167	2.2091	0.1856	1.4254	1.6110	0.0000	3,528.7071	3,528.7071	0.7062	0.0000	3,543.5369
Total	**54.3353**	**161.7377**	**120.2594**	**0.1778**	**9.3243**	**9.1153**	**17.7262**	**4.4831**	**8.4887**	**12.3155**	**0.0000**	**17,488.3401**	**17,488.3401**	**4.0317**	**0.0000**	**17,573.0058**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.0230**	**0.0891**	**0.0800**	**0.0731**	**54.1683**	**0.0908**	**38.3529**	**57.4691**	**0.0910**	**32.9964**	**0.0000**	**0.0755**	**0.0755**	**0.0895**	**0.0000**	**0.0756**

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	44.7019	1.1191	86.1018	0.1182		11.2957	11.2957		11.2940	11.2940	1,376.9370	2,667.8372	4,044.7742	4.1279	0.0935	4,160.4324
Energy	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521
Mobile	14.5814	13.4967	54.3524	0.1519	10.1431	0.2085	10.3517	2.7103	0.1921	2.9024		12,535.6440	12,535.6440	0.4535		12,545.1680
Total	**59.4299**	**15.8690**	**140.9875**	**0.2781**	**10.1431**	**11.6056**	**21.7487**	**2.7103**	**11.5874**	**14.2977**	**1,376.9370**	**16,803.3965**	**18,180.3335**	**4.6121**	**0.1228**	**18,315.2525**

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	6.4394	0.1418	12.2275	6.4000e-004		0.2441	0.2441		0.2422	0.2422	0.0000	2,823.4843	2,823.4843	0.0753	0.0514	2,840.9891
Energy	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521
Mobile	14.5814	13.4967	54.3524	0.1519	10.1431	0.2085	10.3517	2.7103	0.1921	2.9024		12,535.6440	12,535.6440	0.4535		12,545.1680
Total	**21.1674**	**14.8917**	**67.1132**	**0.1606**	**10.1431**	**0.5540**	**10.6971**	**2.7103**	**0.5357**	**3.2459**	**0.0000**	**16,959.0435**	**16,959.0435**	**0.5595**	**0.0807**	**16,995.8091**

	ROG	NOx	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	**64.3825**	**6.1585**	**52.3978**	**42.2674**	**0.0000**	**95.2268**	**50.8151**	**0.0000**	**95.3771**	**77.2975**	**100.0000**	**-0.9263**	**6.7176**	**87.8683**	**34.2862**	**7.2041**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	2/11/2015	5	30	
2	Grading	Grading	2/12/2015	5/27/2015	5	75	
3	Building Construction	Building Construction	5/28/2015	3/28/2018	5	740	
4	Paving	Paving	3/29/2018	6/13/2018	5	55	
5	Architectural Coating	Architectural Coating	6/14/2018	8/29/2018	5	55	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	5.2609	56.8897	42.6318	0.0391		3.0883	3.0883		2.8412	2.8412		4,111.7444	4,111.7444	1.2275		4,137.5225
Total	**5.2609**	**56.8897**	**42.6318**	**0.0391**	**18.0663**	**3.0883**	**21.1545**	**9.9307**	**2.8412**	**12.7719**		**4,111.7444**	**4,111.7444**	**1.2275**		**4,137.5225**

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	0.3890	0.1042	1.2923	2.5500e-003	0.2012	1.7700e-003	0.2030	0.0534	1.6200e-003	0.0550		221.7418	221.7418	0.0119		221.9925
Total	**0.3890**	**0.1042**	**1.2923**	**2.5500e-003**	**0.2012**	**1.7700e-003**	**0.2030**	**0.0534**	**1.6200e-003**	**0.0550**		**221.7418**	**221.7418**	**0.0119**		**221.9925**

3.2 Site Preparation - 2015

Mitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	5.2561	56.8375	42.5927	0.0391		3.0855	3.0855		2.8386	2.8386	0.0000	4,107.9721	4,107.9721	1.2264		4,133.7265
Total	**5.2561**	**56.8375**	**42.5927**	**0.0391**	**7.0458**	**3.0855**	**10.1313**	**3.8730**	**2.8386**	**6.7116**	**0.0000**	**4,107.9721**	**4,107.9721**	**1.2264**		**4,133.7265**

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	0.3890	0.1042	1.2923	2.5500e-003	0.2012	1.7700e-003	0.2030	0.0534	1.6200e-003	0.0550		221.7418	221.7418	0.0119		221.9925
Total	**0.3890**	**0.1042**	**1.2923**	**2.5500e-003**	**0.2012**	**1.7700e-003**	**0.2030**	**0.0534**	**1.6200e-003**	**0.0550**		**221.7418**	**221.7418**	**0.0119**		**221.9925**

3.3 Grading - 2015

Unmitigated Construction On-Site

Acres of Grading: 187.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	6.7751	79.0467	50.8400	0.0618		3.8022	3.8022		3.4980	3.4980		6,486.2433	6,486.2433	1.9364		6,526.9080
Total	**6.7751**	**79.0467**	**50.8400**	**0.0618**	**8.6733**	**3.8022**	**12.4755**	**3.5965**	**3.4980**	**7.0945**		**6,486.2433**	**6,486.2433**	**1.9364**		**6,526.9080**

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	0.4322	0.1158	1.4359	2.8300e-003	0.2236	1.9700e-003	0.2255	0.0593	1.8000e-003	0.0611		246.3798	246.3798	0.0133		246.6583
Total	**0.4322**	**0.1158**	**1.4359**	**2.8300e-003**	**0.2236**	**1.9700e-003**	**0.2255**	**0.0593**	**1.8000e-003**	**0.0611**		**246.3798**	**246.3798**	**0.0133**		**246.6583**

3.3 Grading - 2015

Mitigated Construction On-Site

Acres of Grading: 187.5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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					3.3826	0.0000	3.3826	1.4026	0.0000	1.4026			0.0000			0.0000
Off-Road	6.7689	78.9742	50.7933	0.0617		3.7987	3.7987		3.4948	3.4948	0.0000	6,480.2925	6,480.2925	1.9346		6,520.9199
Total	**6.7689**	**78.9742**	**50.7933**	**0.0617**	**3.3826**	**3.7987**	**7.1813**	**1.4026**	**3.4948**	**4.8974**	**0.0000**	**6,480.2925**	**6,480.2925**	**1.9346**		**6,520.9199**

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	0.4322	0.1158	1.4359	2.8300e-003	0.2236	1.9700e-003	0.2255	0.0593	1.8000e-003	0.0611		246.3798	246.3798	0.0133		246.6583
Total	**0.4322**	**0.1158**	**1.4359**	**2.8300e-003**	**0.2236**	**1.9700e-003**	**0.2255**	**0.0593**	**1.8000e-003**	**0.0611**		**246.3798**	**246.3798**	**0.0133**		**246.6583**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6591	30.0299	18.7446	0.0268		2.1167	2.1167		1.9904	1.9904		2,689.5771	2,689.5771	0.6748		2,703.7483
Total	**3.6591**	**30.0299**	**18.7446**	**0.0268**		**2.1167**	**2.1167**		**1.9904**	**1.9904**		**2,689.5771**	**2,689.5771**	**0.6748**		**2,703.7483**

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	0.2746	1.5646	1.7315	3.4800e-003	0.1000	0.0274	0.1273	0.0285	0.0252	0.0536		352.7316	352.7316	2.7600e-003		352.7895
Worker	1.1452	0.3069	3.8051	7.5100e-003	0.5924	5.2100e-003	0.5976	0.1571	4.7800e-003	0.1619		652.9063	652.9063	0.0352		653.6446
Total	**1.4198**	**1.8714**	**5.5366**	**0.0110**	**0.6924**	**0.0326**	**0.7250**	**0.1856**	**0.0299**	**0.2155**		**1,005.6379**	**1,005.6379**	**0.0379**		**1,006.4340**

3.4 Building Construction - 2015

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	3.6557	30.0024	18.7274	0.0268		2.1148	2.1148		1.9886	1.9886	0.0000	2,687.1096	2,687.1096	0.6742		2,701.2678
Total	**3.6557**	**30.0024**	**18.7274**	**0.0268**		**2.1148**	**2.1148**		**1.9886**	**1.9886**	**0.0000**	**2,687.1096**	**2,687.1096**	**0.6742**		**2,701.2678**

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	0.2746	1.5646	1.7315	3.4800e-003	0.1000	0.0274	0.1273	0.0285	0.0252	0.0536		352.7316	352.7316	2.7600e-003		352.7895
Worker	1.1452	0.3069	3.8051	7.5100e-003	0.5924	5.2100e-003	0.5976	0.1571	4.7800e-003	0.1619		652.9063	652.9063	0.0352		653.6446
Total	**1.4198**	**1.8714**	**5.5366**	**0.0110**	**0.6924**	**0.0326**	**0.7250**	**0.1856**	**0.0299**	**0.2155**		**1,005.6379**	**1,005.6379**	**0.0379**		**1,006.4340**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4062	28.5063	18.5066	0.0268		1.9674	1.9674		1.8485	1.8485		2,669.2864	2,669.2864	0.6620		2,683.1890
Total	**3.4062**	**28.5063**	**18.5066**	**0.0268**		**1.9674**	**1.9674**		**1.8485**	**1.8485**		**2,669.2864**	**2,669.2864**	**0.6620**		**2,683.1890**

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	0.2393	1.3819	1.5935	3.4800e-003	0.1000	0.0228	0.1228	0.0285	0.0209	0.0494		348.8463	348.8463	2.4900e-003		348.8986
Worker	1.0671	0.2768	3.4451	7.5100e-003	0.5924	4.9500e-003	0.5974	0.1571	4.5500e-003	0.1617		630.4129	630.4129	0.0323		631.0922
Total	**1.3064**	**1.6587**	**5.0386**	**0.0110**	**0.6924**	**0.0277**	**0.7201**	**0.1856**	**0.0255**	**0.2111**		**979.2592**	**979.2592**	**0.0348**		**979.9907**

3.4 Building Construction - 2016

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	3.4031	28.4802	18.4897	0.0268		1.9656	1.9656		1.8468	1.8468	0.0000	2,666.8375	2,666.8375	0.6614		2,680.7273
Total	**3.4031**	**28.4802**	**18.4897**	**0.0268**		**1.9656**	**1.9656**		**1.8468**	**1.8468**	**0.0000**	**2,666.8375**	**2,666.8375**	**0.6614**		**2,680.7273**

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	0.2393	1.3819	1.5935	3.4800e-003	0.1000	0.0228	0.1228	0.0285	0.0209	0.0494		348.8463	348.8463	2.4900e-003		348.8986
Worker	1.0671	0.2768	3.4451	7.5100e-003	0.5924	4.9500e-003	0.5974	0.1571	4.5500e-003	0.1617		630.4129	630.4129	0.0323		631.0922
Total	**1.3064**	**1.6587**	**5.0386**	**0.0110**	**0.6924**	**0.0277**	**0.7201**	**0.1856**	**0.0255**	**0.2111**		**979.2592**	**979.2592**	**0.0348**		**979.9907**

3.4 Building Construction - 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					
Off-Road	3.1024	26.4057	18.1291	0.0268		1.7812	1.7812		1.6730	1.6730		2,639.8053	2,639.8053	0.6497		2,653.4490
Total	**3.1024**	**26.4057**	**18.1291**	**0.0268**		**1.7812**	**1.7812**		**1.6730**	**1.6730**		**2,639.8053**	**2,639.8053**	**0.6497**		**2,653.4490**

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	0.2145	1.2574	1.4985	3.4800e-003	0.1000	0.0203	0.1203	0.0285	0.0187	0.0472		343.1959	343.1959	2.4100e-003		343.2465
Worker	0.9917	0.2499	3.1162	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.3900e-003	0.1615		606.2848	606.2848	0.0299		606.9115
Total	**1.2063**	**1.5073**	**4.6147**	**0.0110**	**0.6924**	**0.0251**	**0.7175**	**0.1856**	**0.0231**	**0.2087**		**949.4807**	**949.4807**	**0.0323**		**950.1580**

3.4 Building Construction - 2017

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	3.0995	26.3814	18.1125	0.0268		1.7796	1.7796		1.6714	1.6714	0.0000	2,637.3834	2,637.3834	0.6491		2,651.0146
Total	**3.0995**	**26.3814**	**18.1125**	**0.0268**		**1.7796**	**1.7796**		**1.6714**	**1.6714**	**0.0000**	**2,637.3834**	**2,637.3834**	**0.6491**		**2,651.0146**

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	0.2145	1.2574	1.4985	3.4800e-003	0.1000	0.0203	0.1203	0.0285	0.0187	0.0472		343.1959	343.1959	2.4100e-003		343.2465
Worker	0.9917	0.2499	3.1162	7.5000e-003	0.5924	4.7600e-003	0.5972	0.1571	4.3900e-003	0.1615		606.2848	606.2848	0.0299		606.9115
Total	**1.2063**	**1.5073**	**4.6147**	**0.0110**	**0.6924**	**0.0251**	**0.7175**	**0.1856**	**0.0231**	**0.2087**		**949.4807**	**949.4807**	**0.0323**		**950.1580**

3.4 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	2.6687	23.2608	17.5327	0.0268		1.4943	1.4943		1.4048	1.4048		2,609.9390	2,609.9390	0.6387		2,623.3517
Total	**2.6687**	**23.2608**	**17.5327**	**0.0268**		**1.4943**	**1.4943**		**1.4048**	**1.4048**		**2,609.9390**	**2,609.9390**	**0.6387**		**2,623.3517**

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	0.1969	1.1540	1.4276	3.4700e-003	0.1000	0.0191	0.1192	0.0285	0.0176	0.0461		337.4369	337.4369	2.3900e-003		337.4871
Worker	0.9243	0.2267	2.8307	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7257	583.7257	0.0277		584.3073
Total	**1.1211**	**1.3807**	**4.2583**	**0.0110**	**0.6924**	**0.0238**	**0.7162**	**0.1856**	**0.0219**	**0.2075**		**921.1626**	**921.1626**	**0.0301**		**921.7945**

3.4 Building Construction - 2018

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	2.6662	23.2395	17.5166	0.0268		1.4929	1.4929		1.4035	1.4035	0.0000	2,607.5445	2,607.5445	0.6381		2,620.9449
Total	**2.6662**	**23.2395**	**17.5166**	**0.0268**		**1.4929**	**1.4929**		**1.4035**	**1.4035**	**0.0000**	**2,607.5445**	**2,607.5445**	**0.6381**		**2,620.9449**

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	0.1969	1.1540	1.4276	3.4700e-003	0.1000	0.0191	0.1192	0.0285	0.0176	0.0461		337.4369	337.4369	2.3900e-003		337.4871
Worker	0.9243	0.2267	2.8307	7.5000e-003	0.5924	4.6400e-003	0.5971	0.1571	4.2900e-003	0.1614		583.7257	583.7257	0.0277		584.3073
Total	**1.1211**	**1.3807**	**4.2583**	**0.0110**	**0.6924**	**0.0238**	**0.7162**	**0.1856**	**0.0219**	**0.2075**		**921.1626**	**921.1626**	**0.0301**		**921.7945**

3.5 Paving - 2018

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.6114	17.1628	14.4944	0.0223		0.9386	0.9386		0.8635	0.8635		2,245.2695	2,245.2695	0.6990		2,259.9481
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6114**	**17.1628**	**14.4944**	**0.0223**		**0.9386**	**0.9386**		**0.8635**	**0.8635**		**2,245.2695**	**2,245.2695**	**0.6990**		**2,259.9481**

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	0.2616	0.0642	0.8011	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2054	165.2054	7.8400e-003		165.3700
Total	**0.2616**	**0.0642**	**0.8011**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2054**	**165.2054**	**7.8400e-003**		**165.3700**

3.5 Paving - 2018

Mitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	1.6099	17.1470	14.4811	0.0223		0.9378	0.9378		0.8628	0.8628	0.0000	2,243.2096	2,243.2096	0.6983		2,257.8747
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.6099**	**17.1470**	**14.4811**	**0.0223**		**0.9378**	**0.9378**		**0.8628**	**0.8628**	**0.0000**	**2,243.2096**	**2,243.2096**	**0.6983**		**2,257.8747**

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	0.2616	0.0642	0.8011	2.1200e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		165.2054	165.2054	7.8400e-003		165.3700
Total	**0.2616**	**0.0642**	**0.8011**	**2.1200e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**165.2054**	**165.2054**	**7.8400e-003**		**165.3700**

3.6 Architectural Coating - 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					
Archit. Coating	37.6288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.0102
Total	**37.9275**	**2.0058**	**1.8542**	**2.9700e-003**		**0.1506**	**0.1506**		**0.1506**	**0.1506**		**281.4485**	**281.4485**	**0.0267**		**282.0102**

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	0.1918	0.0471	0.5875	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1506	121.1506	5.7500e-003		121.2713
Total	**0.1918**	**0.0471**	**0.5875**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1506**	**121.1506**	**5.7500e-003**		**121.2713**

3.6 Architectural Coating - 2018

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	37.6288					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2984	2.0039	1.8525	2.9700e-003		0.1504	0.1504		0.1504	0.1504	0.0000	281.1903	281.1903	0.0267		281.7514
Total	**37.9272**	**2.0039**	**1.8525**	**2.9700e-003**		**0.1504**	**0.1504**		**0.1504**	**0.1504**	**0.0000**	**281.1903**	**281.1903**	**0.0267**		**281.7514**

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	0.1918	0.0471	0.5875	1.5600e-003	0.1230	9.6000e-004	0.1239	0.0326	8.9000e-004	0.0335		121.1506	121.1506	5.7500e-003		121.2713
Total	**0.1918**	**0.0471**	**0.5875**	**1.5600e-003**	**0.1230**	**9.6000e-004**	**0.1239**	**0.0326**	**8.9000e-004**	**0.0335**		**121.1506**	**121.1506**	**5.7500e-003**		**121.2713**

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	14.5814	13.4967	54.3524	0.1519	10.1431	0.2085	10.3517	2.7103	0.1921	2.9024		12,535.6440	12,535.6440	0.4535		12,545.1680
Unmitigated	14.5814	13.4967	54.3524	0.1519	10.1431	0.2085	10.3517	2.7103	0.1921	2.9024		12,535.6440	12,535.6440	0.4535		12,545.1680

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,399.44	1,399.44	1289.19	4,728,279	4,728,279
Total	1,399.44	1,399.44	1,289.19	4,728,279	4,728,279

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511172	0.060004	0.180590	0.138995	0.042398	0.006681	0.016070	0.032568	0.001938	0.002493	0.004370	0.000586	0.002135

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521
NaturalGas Unmitigated	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521

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					
Single Family Housing	13599.3	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521
Total		**0.1467**	**1.2533**	**0.5333**	**8.0000e-003**		**0.1013**	**0.1013**		**0.1013**	**0.1013**		**1,599.9153**	**1,599.9153**	**0.0307**	**0.0293**	**1,609.6521**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Single Family Housing	13.5993	0.1467	1.2533	0.5333	8.0000e-003		0.1013	0.1013		0.1013	0.1013		1,599.9153	1,599.9153	0.0307	0.0293	1,609.6521
Total		**0.1467**	**1.2533**	**0.5333**	**8.0000e-003**		**0.1013**	**0.1013**		**0.1013**	**0.1013**		**1,599.9153**	**1,599.9153**	**0.0307**	**0.0293**	**1,609.6521**

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	6.4394	0.1418	12.2275	6.4000e-004		0.2441	0.2441		0.2422	0.2422	0.0000	2,823.4843	2,823.4843	0.0753	0.0514	2,840.9891
Unmitigated	44.7019	1.1191	86.1018	0.1182		11.2957	11.2957		11.2940	11.2940	1,376.9370	2,667.8372	4,044.7742	4.1279	0.0935	4,160.4324

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	0.5670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2391					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	38.5193	0.9773	73.8884	0.1176		11.2291	11.2291		11.2273	11.2273	1,376.9370	2,646.0000	4,022.9370	4.1063	0.0935	4,138.1407
Landscaping	0.3765	0.1418	12.2135	6.4000e-004		0.0667	0.0667		0.0667	0.0667		21.8372	21.8372	0.0216		22.2917
Total	**44.7019**	**1.1191**	**86.1018**	**0.1182**		**11.2957**	**11.2957**		**11.2940**	**11.2940**	**1,376.9370**	**2,667.8372**	**4,044.7742**	**4.1279**	**0.0935**	**4,160.4324**

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	0.5670					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	5.2391					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2568	1.0000e-005	0.0140	0.0000		0.1774	0.1774		0.1756	0.1756	0.0000	2,801.6471	2,801.6471	0.0537	0.0514	2,818.6974
Landscaping	0.3765	0.1418	12.2135	6.4000e-004		0.0667	0.0667		0.0667	0.0667		21.8372	21.8372	0.0216		22.2917
Total	**6.4394**	**0.1418**	**12.2275**	**6.4000e-004**		**0.2441**	**0.2441**		**0.2422**	**0.2422**	**0.0000**	**2,823.4843**	**2,823.4843**	**0.0753**	**0.0514**	**2,840.9891**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Vegetation

TT 36567 South Shore II

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	147.00	Dwelling Unit	47.73	264,600.00	420

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	10			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	630.89	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Site Prep: 30 days, Grading: 75 days, Construction: 740 days, Paving 55 days

Vehicle Trips - Trip generation rates per project traffic report

Construction Off-road Equipment Mitigation -

Area Mitigation -

Off-road Equipment - Site Prep: 3 dozers, 4 loader/backhoes

Off-road Equipment - Grading: 2 excavators, 1 grader, 1 dozer, 2 scrapers, 2 loader/backhoes

Off-road Equipment - Construction: 1 crane, 3 forklifts, 1 gen set, 3 loader/backhoes, 1 welder

Off-road Equipment - Paving: 2 pavers, 2 paving equipment, 2 rollers

Table Name	Column Name	Default Value	New Value
tblProjectCharacteristics	OperationalYear	2014	2018
tblVehicleTrips	ST_TR	10.08	9.52
tblVehicleTrips	WD_TR	9.57	9.52

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					
2015	0.7566	6.3213	4.5145	5.9600e-003	0.6605	0.3567	1.0171	0.3010	0.3315	0.6325	0.0000	546.6702	546.6702	0.1336	0.0000	549.4764
2016	0.6220	3.9494	3.0825	4.8800e-003	0.0887	0.2604	0.3491	0.0238	0.2446	0.2684	0.0000	428.2570	428.2570	0.0825	0.0000	429.9896
2017	0.5666	3.6402	2.9675	4.8600e-003	0.0884	0.2348	0.3232	0.0237	0.2205	0.2442	0.0000	419.7559	419.7559	0.0804	0.0000	421.4449
2018	1.2211	1.3093	1.1746	1.9700e-003	0.0293	0.0778	0.1071	7.8300e-003	0.0729	0.0807	0.0000	169.9155	169.9155	0.0376	0.0000	170.7042
Total	**3.1662**	**15.2203**	**11.7391**	**0.0177**	**0.8669**	**0.9297**	**1.7966**	**0.3564**	**0.8694**	**1.2258**	**0.0000**	**1,564.5986**	**1,564.5986**	**0.3341**	**0.0000**	**1,571.6151**

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					
2015	0.7559	6.3140	4.5097	5.9600e-003	0.2968	0.3562	0.6530	0.1279	0.3311	0.4590	0.0000	546.1148	546.1148	0.1335	0.0000	548.9177
2016	0.6214	3.9450	3.0796	4.8800e-003	0.0887	0.2601	0.3488	0.0238	0.2443	0.2681	0.0000	427.8811	427.8811	0.0824	0.0000	429.6117
2017	0.5661	3.6362	2.9646	4.8600e-003	0.0884	0.2346	0.3230	0.0237	0.2202	0.2440	0.0000	419.3855	419.3855	0.0803	0.0000	421.0726
2018	1.2210	1.3078	1.1734	1.9700e-003	0.0293	0.0777	0.1070	7.8300e-003	0.0728	0.0806	0.0000	169.7518	169.7518	0.0375	0.0000	170.5396
Total	**3.1643**	**15.2030**	**11.7274**	**0.0177**	**0.5031**	**0.9286**	**1.4318**	**0.1833**	**0.8684**	**1.0517**	**0.0000**	**1,563.1331**	**1,563.1331**	**0.3337**	**0.0000**	**1,570.1416**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.0600**	**0.1139**	**0.0992**	**0.0000**	**41.9577**	**0.1183**	**20.3050**	**48.5775**	**0.1173**	**14.2074**	**0.0000**	**0.0937**	**0.0937**	**0.1167**	**0.0000**	**0.0938**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5882	0.0299	2.4503	1.5500e-003		0.1487	0.1487		0.1487	0.1487	15.6142	32.4814	48.0956	0.0490	1.0600e-003	49.4536
Energy	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	587.9398	587.9398	0.0199	7.9300e-003	590.8161
Mobile	2.7043	2.6033	9.6987	0.0263	1.7921	0.0375	1.8296	0.4796	0.0346	0.5142	0.0000	1,969.8520	1,969.8520	0.0740	0.0000	1,971.4055
Waste						0.0000	0.0000		0.0000	0.0000	34.9550	0.0000	34.9550	2.0658	0.0000	78.3365
Water						0.0000	0.0000		0.0000	0.0000	3.0385	54.8850	57.9235	0.3146	7.8900e-003	66.9765
Total	**4.3193**	**2.8620**	**12.2463**	**0.0293**	**1.7921**	**0.2047**	**1.9968**	**0.4796**	**0.2017**	**0.6813**	**53.6078**	**2,645.1581**	**2,698.7659**	**2.5233**	**0.0169**	**2,756.9882**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.1099	0.0177	1.5269	8.0000e-005		0.0106	0.0106		0.0105	0.0105	0.0000	34.2464	34.2464	3.0600e-003	5.8000e-004	34.4913
Energy	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	587.9398	587.9398	0.0199	7.9300e-003	590.8161
Mobile	2.7043	2.6033	9.6987	0.0263	1.7921	0.0375	1.8296	0.4796	0.0346	0.5142	0.0000	1,969.8520	1,969.8520	0.0740	0.0000	1,971.4055
Waste						0.0000	0.0000		0.0000	0.0000	34.9550	0.0000	34.9550	2.0658	0.0000	78.3365
Water						0.0000	0.0000		0.0000	0.0000	3.0385	54.8850	57.9235	0.3146	7.8800e-003	66.9717
Total	**3.8410**	**2.8497**	**11.3229**	**0.0278**	**1.7921**	**0.0666**	**1.8587**	**0.4796**	**0.0636**	**0.5432**	**37.9936**	**2,646.9231**	**2,684.9167**	**2.4773**	**0.0164**	**2,742.0211**

	ROG	NOx	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	**11.0732**	**0.4270**	**7.5405**	**5.0222**	**0.0000**	**67.4791**	**6.9185**	**0.0000**	**68.4743**	**20.2756**	**29.1267**	**-0.0667**	**0.5132**	**1.8238**	**2.9028**	**0.5429**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/1/2015	2/11/2015	5	30	
2	Grading	Grading	2/12/2015	5/27/2015	5	75	
3	Building Construction	Building Construction	5/28/2015	3/28/2018	5	740	
4	Paving	Paving	3/29/2018	6/13/2018	5	55	
5	Architectural Coating	Architectural Coating	6/14/2018	8/29/2018	5	55	

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	162	0.38
Grading	Graders	1	8.00	174	0.41
Grading	Rubber Tired Dozers	1	8.00	255	0.40
Grading	Scrapers	2	8.00	361	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	226	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	125	0.42
Paving	Paving Equipment	2	8.00	130	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	53.00	16.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	11.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2015

Unmitigated Construction On-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive 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					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0789	0.8533	0.6395	5.9000e-004		0.0463	0.0463		0.0426	0.0426	0.0000	55.9517	55.9517	0.0167	0.0000	56.3025
Total	**0.0789**	**0.8533**	**0.6395**	**5.9000e-004**	**0.2710**	**0.0463**	**0.3173**	**0.1490**	**0.0426**	**0.1916**	**0.0000**	**55.9517**	**55.9517**	**0.0167**	**0.0000**	**56.3025**

3.2 Site Preparation - 2015

Unmitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0700e-003	1.7700e-003	0.0184	4.0000e-005	2.9600e-003	3.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.8746	2.8746	1.6000e-004	0.0000	2.8780
Total	**6.0700e-003**	**1.7700e-003**	**0.0184**	**4.0000e-005**	**2.9600e-003**	**3.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.8746**	**2.8746**	**1.6000e-004**	**0.0000**	**2.8780**

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					0.1057	0.0000	0.1057	0.0581	0.0000	0.0581	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0788	0.8523	0.6387	5.9000e-004		0.0463	0.0463		0.0426	0.0426	0.0000	55.8851	55.8851	0.0167	0.0000	56.2355
Total	**0.0788**	**0.8523**	**0.6387**	**5.9000e-004**	**0.1057**	**0.0463**	**0.1520**	**0.0581**	**0.0426**	**0.1007**	**0.0000**	**55.8851**	**55.8851**	**0.0167**	**0.0000**	**56.2355**

3.2 Site Preparation - 2015

Mitigated Construction Off-Site

Acres of Grading: 0

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0700e-003	1.7700e-003	0.0184	4.0000e-005	2.9600e-003	3.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.1000e-004	0.0000	2.8746	2.8746	1.6000e-004	0.0000	2.8780
Total	**6.0700e-003**	**1.7700e-003**	**0.0184**	**4.0000e-005**	**2.9600e-003**	**3.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.1000e-004**	**0.0000**	**2.8746**	**2.8746**	**1.6000e-004**	**0.0000**	**2.8780**

3.3 Grading - 2015

Unmitigated Construction On-Site

Acres of Grading: 187.5

	ROG	NOx	CO	SO2	Fugitive 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					0.3253	0.0000	0.3253	0.1349	0.0000	0.1349	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2541	2.9643	1.9065	2.3200e-003		0.1426	0.1426		0.1312	0.1312	0.0000	220.6583	220.6583	0.0659	0.0000	222.0417
Total	**0.2541**	**2.9643**	**1.9065**	**2.3200e-003**	**0.3253**	**0.1426**	**0.4678**	**0.1349**	**0.1312**	**0.2661**	**0.0000**	**220.6583**	**220.6583**	**0.0659**	**0.0000**	**222.0417**

3.3 Grading - 2015

Unmitigated Construction Off-Site

Acres of Grading: 187.5

	ROG	NOx	CO	SO2	Fugitive 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	0.0169	4.9100e-003	0.0510	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	7.0000e-005	2.2500e-003	0.0000	7.9850	7.9850	4.5000e-004	0.0000	7.9945
Total	**0.0169**	**4.9100e-003**	**0.0510**	**1.0000e-004**	**8.2300e-003**	**7.0000e-005**	**8.3000e-003**	**2.1900e-003**	**7.0000e-005**	**2.2500e-003**	**0.0000**	**7.9850**	**7.9850**	**4.5000e-004**	**0.0000**	**7.9945**

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					0.1269	0.0000	0.1269	0.0526	0.0000	0.0526	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2538	2.9607	1.9042	2.3100e-003		0.1424	0.1424		0.1310	0.1310	0.0000	220.3958	220.3958	0.0658	0.0000	221.7775
Total	**0.2538**	**2.9607**	**1.9042**	**2.3100e-003**	**0.1269**	**0.1424**	**0.2693**	**0.0526**	**0.1310**	**0.1836**	**0.0000**	**220.3958**	**220.3958**	**0.0658**	**0.0000**	**221.7775**

3.3 Grading - 2015

Mitigated Construction Off-Site

Acres of Grading: 187.5

	ROG	NOx	CO	SO2	Fugitive 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	0.0169	4.9100e-003	0.0510	1.0000e-004	8.2300e-003	7.0000e-005	8.3000e-003	2.1900e-003	7.0000e-005	2.2500e-003	0.0000	7.9850	7.9850	4.5000e-004	0.0000	7.9945
Total	**0.0169**	**4.9100e-003**	**0.0510**	**1.0000e-004**	**8.2300e-003**	**7.0000e-005**	**8.3000e-003**	**2.1900e-003**	**7.0000e-005**	**2.2500e-003**	**0.0000**	**7.9850**	**7.9850**	**4.5000e-004**	**0.0000**	**7.9945**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2854	2.3423	1.4621	2.0900e-003		0.1651	0.1651		0.1553	0.1553	0.0000	190.3156	190.3156	0.0478	0.0000	191.3183
Total	**0.2854**	**2.3423**	**1.4621**	**2.0900e-003**		**0.1651**	**0.1651**		**0.1553**	**0.1553**	**0.0000**	**190.3156**	**190.3156**	**0.0478**	**0.0000**	**191.3183**

3.4 Building Construction - 2015

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0224	0.1277	0.1562	2.7000e-004	7.6800e-003	2.1500e-003	9.8200e-003	2.1900e-003	1.9700e-003	4.1600e-003	0.0000	24.8719	24.8719	2.0000e-004	0.0000	24.8761
Worker	0.0929	0.0271	0.2809	5.6000e-004	0.0454	4.1000e-004	0.0458	0.0121	3.7000e-004	0.0124	0.0000	44.0132	44.0132	2.4900e-003	0.0000	44.0654
Total	**0.1153**	**0.1547**	**0.4371**	**8.3000e-004**	**0.0530**	**2.5600e-003**	**0.0556**	**0.0142**	**2.3400e-003**	**0.0166**	**0.0000**	**68.8851**	**68.8851**	**2.6900e-003**	**0.0000**	**68.9415**

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	0.2851	2.3396	1.4603	2.0900e-003		0.1649	0.1649		0.1551	0.1551	0.0000	190.0892	190.0892	0.0477	0.0000	191.0908
Total	**0.2851**	**2.3396**	**1.4603**	**2.0900e-003**		**0.1649**	**0.1649**		**0.1551**	**0.1551**	**0.0000**	**190.0892**	**190.0892**	**0.0477**	**0.0000**	**191.0908**

3.4 Building Construction - 2015

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0224	0.1277	0.1562	2.7000e-004	7.6800e-003	2.1500e-003	9.8200e-003	2.1900e-003	1.9700e-003	4.1600e-003	0.0000	24.8719	24.8719	2.0000e-004	0.0000	24.8761
Worker	0.0929	0.0271	0.2809	5.6000e-004	0.0454	4.1000e-004	0.0458	0.0121	3.7000e-004	0.0124	0.0000	44.0132	44.0132	2.4900e-003	0.0000	44.0654
Total	**0.1153**	**0.1547**	**0.4371**	**8.3000e-004**	**0.0530**	**2.5600e-003**	**0.0556**	**0.0142**	**2.3400e-003**	**0.0166**	**0.0000**	**68.8851**	**68.8851**	**2.6900e-003**	**0.0000**	**68.9415**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.4445	3.7201	2.4151	3.5000e-003		0.2567	0.2567		0.2412	0.2412	0.0000	316.0104	316.0104	0.0784	0.0000	317.6563
Total	**0.4445**	**3.7201**	**2.4151**	**3.5000e-003**		**0.2567**	**0.2567**		**0.2412**	**0.2412**	**0.0000**	**316.0104**	**316.0104**	**0.0784**	**0.0000**	**317.6563**

3.4 Building Construction - 2016

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	0.0326	0.1885	0.2430	4.5000e-004	0.0129	2.9800e-003	0.0158	3.6700e-003	2.7400e-003	6.4100e-003	0.0000	41.1536	41.1536	3.0000e-004	0.0000	41.1599
Worker	0.1449	0.0408	0.4244	9.3000e-004	0.0759	6.5000e-004	0.0765	0.0202	5.9000e-004	0.0208	0.0000	71.0929	71.0929	3.8300e-003	0.0000	71.1734
Total	**0.1775**	**0.2294**	**0.6674**	**1.3800e-003**	**0.0887**	**3.6300e-003**	**0.0924**	**0.0238**	**3.3300e-003**	**0.0272**	**0.0000**	**112.2466**	**112.2466**	**4.1300e-003**	**0.0000**	**112.3332**

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	0.4440	3.7157	2.4122	3.5000e-003		0.2564	0.2564		0.2409	0.2409	0.0000	315.6345	315.6345	0.0783	0.0000	317.2785
Total	**0.4440**	**3.7157**	**2.4122**	**3.5000e-003**		**0.2564**	**0.2564**		**0.2409**	**0.2409**	**0.0000**	**315.6345**	**315.6345**	**0.0783**	**0.0000**	**317.2785**

3.4 Building Construction - 2016

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	0.0326	0.1885	0.2430	4.5000e-004	0.0129	2.9800e-003	0.0158	3.6700e-003	2.7400e-003	6.4100e-003	0.0000	41.1536	41.1536	3.0000e-004	0.0000	41.1599
Worker	0.1449	0.0408	0.4244	9.3000e-004	0.0759	6.5000e-004	0.0765	0.0202	5.9000e-004	0.0208	0.0000	71.0929	71.0929	3.8300e-003	0.0000	71.1734
Total	**0.1775**	**0.2294**	**0.6674**	**1.3800e-003**	**0.0887**	**3.6300e-003**	**0.0924**	**0.0238**	**3.3300e-003**	**0.0272**	**0.0000**	**112.2466**	**112.2466**	**4.1300e-003**	**0.0000**	**112.3332**

3.4 Building Construction - 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					
Off-Road	0.4033	3.4327	2.3568	3.4900e-003		0.2316	0.2316		0.2175	0.2175	0.0000	311.3228	311.3228	0.0766	0.0000	312.9319
Total	**0.4033**	**3.4327**	**2.3568**	**3.4900e-003**		**0.2316**	**0.2316**		**0.2175**	**0.2175**	**0.0000**	**311.3228**	**311.3228**	**0.0766**	**0.0000**	**312.9319**

3.4 Building Construction - 2017

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	0.0291	0.1708	0.2294	4.5000e-004	0.0128	2.6500e-003	0.0155	3.6500e-003	2.4400e-003	6.0900e-003	0.0000	40.3316	40.3316	2.9000e-004	0.0000	40.3376
Worker	0.1342	0.0367	0.3813	9.3000e-004	0.0756	6.2000e-004	0.0762	0.0201	5.7000e-004	0.0207	0.0000	68.1015	68.1015	3.5200e-003	0.0000	68.1754
Total	**0.1632**	**0.2075**	**0.6107**	**1.3800e-003**	**0.0884**	**3.2700e-003**	**0.0917**	**0.0237**	**3.0100e-003**	**0.0267**	**0.0000**	**108.4330**	**108.4330**	**3.8100e-003**	**0.0000**	**108.5130**

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	0.4028	3.4287	2.3540	3.4800e-003		0.2313	0.2313		0.2172	0.2172	0.0000	310.9525	310.9525	0.0765	0.0000	312.5596
Total	**0.4028**	**3.4287**	**2.3540**	**3.4800e-003**		**0.2313**	**0.2313**		**0.2172**	**0.2172**	**0.0000**	**310.9525**	**310.9525**	**0.0765**	**0.0000**	**312.5596**

3.4 Building Construction - 2017

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	0.0291	0.1708	0.2294	4.5000e-004	0.0128	2.6500e-003	0.0155	3.6500e-003	2.4400e-003	6.0900e-003	0.0000	40.3316	40.3316	2.9000e-004	0.0000	40.3376
Worker	0.1342	0.0367	0.3813	9.3000e-004	0.0756	6.2000e-004	0.0762	0.0201	5.7000e-004	0.0207	0.0000	68.1015	68.1015	3.5200e-003	0.0000	68.1754
Total	**0.1632**	**0.2075**	**0.6107**	**1.3800e-003**	**0.0884**	**3.2700e-003**	**0.0917**	**0.0237**	**3.0100e-003**	**0.0267**	**0.0000**	**108.4330**	**108.4330**	**3.8100e-003**	**0.0000**	**108.5130**

3.4 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	0.0841	0.7327	0.5523	8.4000e-004		0.0471	0.0471		0.0443	0.0443	0.0000	74.5825	74.5825	0.0183	0.0000	74.9657
Total	**0.0841**	**0.7327**	**0.5523**	**8.4000e-004**		**0.0471**	**0.0471**		**0.0443**	**0.0443**	**0.0000**	**74.5825**	**74.5825**	**0.0183**	**0.0000**	**74.9657**

3.4 Building Construction - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4700e-003	0.0380	0.0533	1.1000e-004	3.1000e-003	6.0000e-004	3.7100e-003	8.9000e-004	5.6000e-004	1.4400e-003	0.0000	9.6086	9.6086	7.0000e-005	0.0000	9.6100
Worker	0.0303	8.0700e-003	0.0837	2.2000e-004	0.0183	1.5000e-004	0.0185	4.8600e-003	1.4000e-004	5.0000e-003	0.0000	15.8856	15.8856	7.9000e-004	0.0000	15.9022
Total	**0.0368**	**0.0460**	**0.1369**	**3.3000e-004**	**0.0214**	**7.5000e-004**	**0.0222**	**5.7500e-003**	**7.0000e-004**	**6.4400e-003**	**0.0000**	**25.4942**	**25.4942**	**8.6000e-004**	**0.0000**	**25.5123**

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	0.0840	0.7318	0.5516	8.4000e-004		0.0470	0.0470		0.0442	0.0442	0.0000	74.4937	74.4937	0.0182	0.0000	74.8766
Total	**0.0840**	**0.7318**	**0.5516**	**8.4000e-004**		**0.0470**	**0.0470**		**0.0442**	**0.0442**	**0.0000**	**74.4937**	**74.4937**	**0.0182**	**0.0000**	**74.8766**

3.4 Building Construction - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.4700e-003	0.0380	0.0533	1.1000e-004	3.1000e-003	6.0000e-004	3.7100e-003	8.9000e-004	5.6000e-004	1.4400e-003	0.0000	9.6086	9.6086	7.0000e-005	0.0000	9.6100
Worker	0.0303	8.0700e-003	0.0837	2.2000e-004	0.0183	1.5000e-004	0.0185	4.8600e-003	1.4000e-004	5.0000e-003	0.0000	15.8856	15.8856	7.9000e-004	0.0000	15.9022
Total	**0.0368**	**0.0460**	**0.1369**	**3.3000e-004**	**0.0214**	**7.5000e-004**	**0.0222**	**5.7500e-003**	**7.0000e-004**	**6.4400e-003**	**0.0000**	**25.4942**	**25.4942**	**8.6000e-004**	**0.0000**	**25.5123**

3.5 Paving - 2018

Unmitigated Construction On-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	0.0443	0.4720	0.3986	6.1000e-004		0.0258	0.0258		0.0238	0.0238	0.0000	56.0140	56.0140	0.0174	0.0000	56.3802
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0443**	**0.4720**	**0.3986**	**6.1000e-004**		**0.0258**	**0.0258**		**0.0238**	**0.0238**	**0.0000**	**56.0140**	**56.0140**	**0.0174**	**0.0000**	**56.3802**

3.5 Paving - 2018

Unmitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	7.4900e-003	1.9900e-003	0.0207	6.0000e-005	4.5300e-003	4.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2400e-003	0.0000	3.9250	3.9250	2.0000e-004	0.0000	3.9291
Total	**7.4900e-003**	**1.9900e-003**	**0.0207**	**6.0000e-005**	**4.5300e-003**	**4.0000e-005**	**4.5600e-003**	**1.2000e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**3.9250**	**3.9250**	**2.0000e-004**	**0.0000**	**3.9291**

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	0.0443	0.4714	0.3981	6.1000e-004		0.0258	0.0258		0.0237	0.0237	0.0000	55.9474	55.9474	0.0174	0.0000	56.3132
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0443**	**0.4714**	**0.3981**	**6.1000e-004**		**0.0258**	**0.0258**		**0.0237**	**0.0237**	**0.0000**	**55.9474**	**55.9474**	**0.0174**	**0.0000**	**56.3132**

3.5 Paving - 2018

Mitigated Construction Off-Site

Acres of Paving: 0

	ROG	NOx	CO	SO2	Fugitive 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	7.4900e-003	1.9900e-003	0.0207	6.0000e-005	4.5300e-003	4.0000e-005	4.5600e-003	1.2000e-003	3.0000e-005	1.2400e-003	0.0000	3.9250	3.9250	2.0000e-004	0.0000	3.9291
Total	**7.4900e-003**	**1.9900e-003**	**0.0207**	**6.0000e-005**	**4.5300e-003**	**4.0000e-005**	**4.5600e-003**	**1.2000e-003**	**3.0000e-005**	**1.2400e-003**	**0.0000**	**3.9250**	**3.9250**	**2.0000e-004**	**0.0000**	**3.9291**

3.6 Architectural Coating - 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					
Archit. Coating	1.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2100e-003	0.0552	0.0510	8.0000e-005		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	7.0215	7.0215	6.7000e-004	0.0000	7.0355
Total	**1.0430**	**0.0552**	**0.0510**	**8.0000e-005**		**4.1400e-003**	**4.1400e-003**		**4.1400e-003**	**4.1400e-003**	**0.0000**	**7.0215**	**7.0215**	**6.7000e-004**	**0.0000**	**7.0355**

3.6 Architectural Coating - 2018

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	5.4900e-003	1.4600e-003	0.0152	4.0000e-005	3.3200e-003	3.0000e-005	3.3500e-003	8.8000e-004	2.0000e-005	9.1000e-004	0.0000	2.8783	2.8783	1.4000e-004	0.0000	2.8814
Total	**5.4900e-003**	**1.4600e-003**	**0.0152**	**4.0000e-005**	**3.3200e-003**	**3.0000e-005**	**3.3500e-003**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**2.8783**	**2.8783**	**1.4000e-004**	**0.0000**	**2.8814**

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	1.0348					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	8.2000e-003	0.0551	0.0509	8.0000e-005		4.1400e-003	4.1400e-003		4.1400e-003	4.1400e-003	0.0000	7.0131	7.0131	6.7000e-004	0.0000	7.0271
Total	**1.0430**	**0.0551**	**0.0509**	**8.0000e-005**		**4.1400e-003**	**4.1400e-003**		**4.1400e-003**	**4.1400e-003**	**0.0000**	**7.0131**	**7.0131**	**6.7000e-004**	**0.0000**	**7.0271**

3.6 Architectural Coating - 2018

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	5.4900e-003	1.4600e-003	0.0152	4.0000e-005	3.3200e-003	3.0000e-005	3.3500e-003	8.8000e-004	2.0000e-005	9.1000e-004	0.0000	2.8783	2.8783	1.4000e-004	0.0000	2.8814
Total	**5.4900e-003**	**1.4600e-003**	**0.0152**	**4.0000e-005**	**3.3200e-003**	**3.0000e-005**	**3.3500e-003**	**8.8000e-004**	**2.0000e-005**	**9.1000e-004**	**0.0000**	**2.8783**	**2.8783**	**1.4000e-004**	**0.0000**	**2.8814**

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	2.7043	2.6033	9.6987	0.0263	1.7921	0.0375	1.8296	0.4796	0.0346	0.5142	0.0000	1,969.8520	1,969.8520	0.0740	0.0000	1,971.4055
Unmitigated	2.7043	2.6033	9.6987	0.0263	1.7921	0.0375	1.8296	0.4796	0.0346	0.5142	0.0000	1,969.8520	1,969.8520	0.0740	0.0000	1,971.4055

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	1,399.44	1,399.44	1289.19	4,728,279	4,728,279
Total	1,399.44	1,399.44	1,289.19	4,728,279	4,728,279

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.511172	0.060004	0.180590	0.138995	0.042398	0.006681	0.016070	0.032568	0.001938	0.002493	0.004370	0.000586	0.002135

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.0558	323.0558	0.0149	3.0700e-003	324.3201
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.0558	323.0558	0.0149	3.0700e-003	324.3201
NaturalGas Mitigated	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	264.8839	264.8839	5.0800e-003	4.8600e-003	266.4960
NaturalGas Unmitigated	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	264.8839	264.8839	5.0800e-003	4.8600e-003	266.4960

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					
Single Family Housing	4.96374e+006	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	264.8839	264.8839	5.0800e-003	4.8600e-003	266.4960
Total		**0.0268**	**0.2287**	**0.0973**	**1.4600e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**264.8839**	**264.8839**	**5.0800e-003**	**4.8600e-003**	**266.4960**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Single Family Housing	4.96374e+006	0.0268	0.2287	0.0973	1.4600e-003		0.0185	0.0185		0.0185	0.0185	0.0000	264.8839	264.8839	5.0800e-003	4.8600e-003	266.4960
Total		**0.0268**	**0.2287**	**0.0973**	**1.4600e-003**		**0.0185**	**0.0185**		**0.0185**	**0.0185**	**0.0000**	**264.8839**	**264.8839**	**5.0800e-003**	**4.8600e-003**	**266.4960**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.12891e+006	323.0558	0.0149	3.0700e-003	324.3201
Total		**323.0558**	**0.0149**	**3.0700e-003**	**324.3201**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	1.12891e+006	323.0558	0.0149	3.0700e-003	324.3201
Total		**323.0558**	**0.0149**	**3.0700e-003**	**324.3201**

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	1.1099	0.0177	1.5269	8.0000e-005		0.0106	0.0106		0.0105	0.0105	0.0000	34.2464	34.2464	3.0600e-003	5.8000e-004	34.4913
Unmitigated	1.5882	0.0299	2.4503	1.5500e-003		0.1487	0.1487		0.1487	0.1487	15.6142	32.4814	48.0956	0.0490	1.0600e-003	49.4536

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	0.1035					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9561					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.4815	0.0122	0.9236	1.4700e-003		0.1404	0.1404		0.1403	0.1403	15.6142	30.0051	45.6193	0.0466	1.0600e-003	46.9257
Landscaping	0.0471	0.0177	1.5267	8.0000e-005		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	2.4763	2.4763	2.4500e-003	0.0000	2.5278
Total	**1.5882**	**0.0299**	**2.4503**	**1.5500e-003**		**0.1487**	**0.1487**		**0.1487**	**0.1487**	**15.6142**	**32.4814**	**48.0956**	**0.0490**	**1.0600e-003**	**49.4536**

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	0.1035					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.9561					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2100e-003	0.0000	1.8000e-004	0.0000		2.2200e-003	2.2200e-003		2.1900e-003	2.1900e-003	0.0000	31.7701	31.7701	6.1000e-004	5.8000e-004	31.9635
Landscaping	0.0471	0.0177	1.5267	8.0000e-005		8.3300e-003	8.3300e-003		8.3300e-003	8.3300e-003	0.0000	2.4763	2.4763	2.4500e-003	0.0000	2.5278
Total	**1.1099**	**0.0177**	**1.5269**	**8.0000e-005**		**0.0106**	**0.0106**		**0.0105**	**0.0105**	**0.0000**	**34.2464**	**34.2464**	**3.0600e-003**	**5.8000e-004**	**34.4913**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	57.9235	0.3146	7.8800e-003	66.9717
Unmitigated	57.9235	0.3146	7.8900e-003	66.9765

7.2 Water by Land Use

Unmitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.57764 / 6.03808	57.9235	0.3146	7.8900e-003	66.9765
Total		**57.9235**	**0.3146**	**7.8900e-003**	**66.9765**

7.2 Water by Land Use

Mitigated

	Indoor/ Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	9.57764 / 6.03808	57.9235	0.3146	7.8800e-003	66.9717
Total		**57.9235**	**0.3146**	**7.8800e-003**	**66.9717**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	34.9550	2.0658	0.0000	78.3365
Unmitigated	34.9550	2.0658	0.0000	78.3365

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	172.2	34.9550	2.0658	0.0000	78.3365
Total		**34.9550**	**2.0658**	**0.0000**	**78.3365**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	172.2	34.9550	2.0658	0.0000	78.3365
Total		**34.9550**	**2.0658**	**0.0000**	**78.3365**

9.0 Operational Offroad

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

10.0 Vegetation