ZANDERSON PLAZA

AIR QUALITY and GREENHOUSE GAS STUDY

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June 2017

ZANDERSON PLAZA PROJECT
HEMET, CALIFORNIA

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This report is an analysis of the potential air quality and greenhouse gas impacts associated with the proposed Zanderson Plaza project in the City of Hemet, California. This report has been prepared by Birdseye Planning Group (BPG) under contract to the Zanderson Plaza, LP to support preparation of the environmental documentation pursuant to the California Environmental Quality Act (CEQA). This study analyzes the potential for temporary impacts associated with construction activity and long-term impacts associated with operation of the proposed project.

PROJECT DESCRIPTION

The Zanderson Plaza project proposes to construct a two phase commercial development and related infrastructure improvements on an 8.67 net acre undeveloped project site at the northeast corner of Sanderson Avenue and Menlo Avenue (APN 44-100-016). The proposed project would require the following entitlements from the City of Hemet:

Rezone from Heavy Agriculture (A-10) General Commercial (C-1). The proposed project would require a zone change from Heavy Agriculture (A-10) to Neighborhood Commercial (C-1) for the entire 8.67 acre site to be consistent with the existing General Plan designation of Neighborhood Commercial (NC - FAR 0.35). As stated in the Hemet General Plan Update (2012), the NC—Neighborhood Commercial designation provides for general retail, markets, commercial services and restaurants designed to serve primarily the needs of surrounding residential areas.

Commercial Tentative Parcel Map (6 lots). The project also requires processing a commercial Tentative Parcel Map to subdivide the entire 8.67 acres into six (6) individual lots for the purpose of commercial development. The lots would be defined as follows:

Lot 1: 45,532 square feet - 1.05 acres;
Lot 2: 43,560 square feet - 1 acre;
Lot 3: 57,284 square feet - 1.32 acres;
Lot 4: 43,563 square feet - 1 acre;
Lot 5: 43,560 square feet - 1 acre; and
Lot 6: 113,168 square feet - 2.60 acres.

The TPM would include two common lots; Lot A would be 25,489 square feet (.59 acres) and located along the southern site boundary. Lot B would be 14,323 square feet (.33 acres).

Conditional Use Permit. A Conditional Use Permit is being requested for development of the proposed drive-thru restaurants and a gasoline/fueling station.

Phase I would be constructed on the west side of the site and include the following elements:

- two approximately 4,500 square foot fast food restaurants with drive-thru windows (9,050 square feet total);
- one 1,500 square foot drive thru car wash with attached storage/supply room;
- one 10-position (20 pump) fueling island with overhead canopy for cars/light trucks; and
- one convenience store/restaurant building.

The convenience store would be approximately 4,600 square feet. Items for sale would include beer and wine for consumption off-site per an Off-Site Beer and Wine License issued by the State Department of Alcoholic Beverage. The restaurant would be 1,600 square feet with a drive thru window at the north end (6,200 square feet total). A 600 square foot second floor would be constructed for use as an office. A total of 112 parking spaces would be provided. Total square footage of development under Phase I would be 16,750.

The car wash would have a water treatment and reclamation system designed to clean and reuse water to minimize potable water demand. The car wash will be a self-service drive thru facility; and thus, is not subject to California State registration requirements.

The underground diesel and gasoline fueling tanks would be located along the northern site boundary to provide easy access for tanker trucks. A total of 4 10,000 gallon tanks (i.e., one diesel tank and three gasoline tanks) would be installed.

Phase II would be constructed on the east side of the side and have a 4,600 SF restaurant with a drive thru and 42,230 SF of multi-tenant retail space in two buildings. An additional 203 parking spaces would be provided for a total of 315 (112 with Phase I and 203 with Phase II).

Phase I of the project is anticipated to begin construction in mid-2017 and be completed within 12 months. Phase II will begin in 2018 with the entire project in operation by 2019.

SETTING

Air Pollution Regulation

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate emissions of airborne pollutants and have established ambient air quality standards for the protection of public health. The EPA is the federal agency designated to administer air quality regulation, while the California Air Resources Board (ARB) is the state equivalent in California. Federal and state standards have been established for six criteria pollutants, including ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulates less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$), and lead (Pb). California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Table 1 lists the current federal and state standards for each of these pollutants. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except lead and the eight-hour average for CO.

Table 1
Current Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	---	0.09 ppm
	8-Hour	0.070 µg/m^3	0.070 µg/m^3
PM_{10}	24-Hour	150 µg/m^3	50 µg/m^3
	Annual	---	20 µg/m^3
$PM_{2.5}$	24-Hour	35 µg/m^3	---
	Annual	12 µg/m^3	12 µg/m^3
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	24-Hour	---	0.04 ppm
	3-Hour	0.5 ppm (secondary)	---
	1-Hour	0.075 ppm (primary)	0.25 ppm
Lead	30-Day Average	---	1.5 µg/m^3
	3-Month Average	0.15 µg/m^3	---

ppm = parts per million
µg/m^3 = micrograms per cubic meter
Source: California Air Resources Board, http://www.arb.ca.gov/research/aaqs/aaqs2.pdf May 4, 2016.

Local control in air quality management is provided by the ARB through county-level or regional (multi-county) APCDs. The ARB establishes air quality standards and is responsible for control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. The ARB has established 14 air basins statewide. The project site is located within the South Coast Air Basin (Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality conditions in the Basin are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the local air basin is classified as being in "attainment" or "non-attainment." The Basin, in which the project area is located, is a non-attainment area for both the federal and state standards for ozone and PM_{10}. The Basin is in attainment for the state and federal standards for nitrogen dioxide, and for carbon monoxide. Characteristics of ozone, carbon monoxide, nitrogen dioxide, and suspended particulates are described below.

Ozone. Ozone is produced by a photochemical reaction (triggered by sunlight) between nitrogen oxides (NO_X) and reactive organic gases (ROG)[1]. Nitrogen oxides are formed during the combustion of fuels, while reactive organic compounds are formed during combustion and evaporation of organic solvents. Because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans including respiratory and eye irritation and possible changes in lung functions. Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

Carbon Monoxide. Carbon monoxide is a local pollutant that is found in high concentrations only near the source. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes. Carbon monoxide's health effects are related to its affinity for hemoglobin in the blood. At high concentrations, carbon monoxide reduces the amount of oxygen in the blood, causing heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) is a by-product of fuel combustion, with the primary source being motor vehicles and industrial boilers and furnaces. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts rapidly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. Nitrogen dioxide is an acute irritant. A relationship between NO_2 and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light and causes a reddish brown cast to the atmosphere and reduced visibility. It can also contribute to the formation of PM_{10} and acid rain.

Suspended Particulates. PM_{10} is particulate matter measuring no more than 10 microns in diameter, while $PM_{2.5}$ is fine particulate matter measuring no more than 2.5 microns in diameter. Suspended particulates are mostly dust particles, nitrates and sulfates. Both PM_{10} and $PM_{2.5}$ are by-products of fuel combustion and wind erosion of soil and unpaved roads, and are directly emitted into the atmosphere through these processes. Suspended particulates are also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with the small particulates (those between 2.5 and 10 microns in diameter) and fine particulates ($PM_{2.5}$) can be very different. The small particulates generally come from windblown dust and dust kicked up from mobile sources. The fine particulates are generally associated with combustion processes as well as being formed in the atmosphere as a secondary pollutant through chemical reactions. Fine particulate matter is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the small and fine particulate matter that is inhaled into the lungs remains there. These materials can damage

[1] Organic compound precursors of ozone are routinely described by a number of variations of three terms: hydrocarbons (HC), organic gases (OG), and organic compounds (OC). These terms are often modified by adjectives such as total, reactive, or volatile, and result in a rather confusing array of acronyms: HC, THC (total hydrocarbons), RHC (reactive hydrocarbons), TOG (total organic gases), ROG (reactive organic gases), TOC (total organic compounds), ROC (reactive organic compounds), and VOC (volatile organic compounds). While most of these differ in some significant way from a chemical perspective, from an air quality perspective two groups are important: non-photochemically reactive in the lower atmosphere, or photochemically reactive in the lower atmosphere (HC, RHC, ROG, ROC, and VOC).

health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance.

Regional Climate and Local Air Quality

South Coast Air Basin. The combination of topography, low mean mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the SCAB the worst air pollution problem in the nation. Climate in the SCAB is determined by its terrain and geographical location. The SCAB consists of a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the SCAB. The SCAB lies in the semi-permanent high pressure zone of the eastern Pacific. The resulting climate is mild, and is tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, or easterly Santa Ana wind conditions can occur.

Annual average temperatures vary little throughout the SCAB, ranging from the low-to-middle 60s, measured in degrees Fahrenheit. With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The majority of annual rainfall in the SCAB occurs between October and March. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern portion of the SCAB and along the coastal side of the mountains. Average temperatures in winter months in the project area range from a low of 34 degrees F to a high of 68 degrees F. In the summer, average temperatures range from a low of 59 degrees F to a high of 98 degrees F. During an average year, the greatest amount of precipitation, 2.86 inches, occurs in February.

The SCAQMD operates a network of 38 ambient air monitoring stations throughout the South Coast Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the California and federal standards. The air quality monitoring station located nearest to the project site is the Perris Station located at 237 ½ North D Street in the City of Perris approximately 12 miles northwest of the project site. Table 2 provides a summary of monitoring data at the Perris Station for ozone and PM_{10}. As referenced, the SCAB is a nonattainment area for these two pollutants.

As shown, both the federal and state ozone standards were exceeded at the Perris monitoring station during each of the last three years. The federal PM_{10} standard was exceeded one time during the last three years. The state PM_{10} standard was exceeded during the last three years - the highest number of exceedances, was seven which occurred in 2013.

Table 2
Ambient Air Quality Data

Pollutant	2013	2014	2015
Ozone, ppm - Worst Hour	0.90	0.104	0.103
Number of days of State exceedances (>0.09 ppm)	60	63	50
Number of days of Federal exceedances (>0.075 ppm)	34	38	31
Particulate Matter <10 microns, $\mu g/m^3$ Worst 24 Hours	67	82	178
Number of samples of State exceedances (>50 $\mu g/m^3$)	7	6	4
Number of samples of Federal exceedances (>150 $\mu g/m^3$)	0	0	1

Perris Monitoring Station
Source: California Air Resources Board, 2013, 2014, 2015 Annual Air Quality Data Summaries available at http://www.arb.ca.gov/adam/topfour/topfour1.php

Air Quality Management Plan

Under state law, the SCAQMD is required to prepare a plan for air quality improvement for pollutants for which the District is in non-compliance. The SCAQMD updates the plan every three years. Each iteration of the SCAQMD's Air Quality Management Plan (AQMP) is an update of the previous plan and has a 20-year horizon. SCAQMD is currently developing the 2016 AQMP. The 2012 AQMP incorporates new scientific data and notable regulatory actions that have occurred since adoption of the 2007 AQMP. The SCAQMD adopted the 2012 AQMP on December 7, 2012.

The 2012 AQMP was prepared to ensure continued progress towards clean air and comply with state and federal requirements. This AQMP builds upon the approaches taken in the 2007 AQMP for the South Coast Air Basin for the attainment of State and federal ozone air quality standards. The 2012 AQMP incorporates the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for applicable source categories. The 2012 AQMP also includes the new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches. The 2012 AQMP is available to download at http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-aqmp-carb-epa-sip-submittal.

Sensitive Receptors

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14; the elderly over 65; persons engaged in strenuous work or exercise; and people with cardiovascular and chronic respiratory diseases. Nearby sensitive receptors are single-family residences located adjacent to and east of the site and the Prince of Peace Pre-School located to the west on the northwest corner of Menlo Avenue and North Sanderson Avenue.

AIR QUALITY IMPACT ANALYSIS

Methodology and Significance Thresholds

This air quality analysis conforms to the methodologies recommended in the SCAQMD's *CEQA Air Quality Handbook* (1993). The handbook includes thresholds for emissions associated with both construction and operation of proposed projects. All emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2013.2.2 developed for the SCAQMD.

Construction activities such as clearing, grading and excavation would generate diesel and dust emissions. Construction equipment that would generate criteria air pollutants includes excavators, graders, dump trucks, and loaders. It was assumed that all construction equipment used would be diesel-powered. Construction emissions associated with development of the proposed project by estimating the types of equipment (including the number) that would be used on-site during each of the construction phases. Construction emissions are analyzed using the regional thresholds established by the SCAQMD and published in the *CEQA Air Quality Handbook.* Because the project area is greater than 5 acres in size, Localized Significance Thresholds (LSTs) were not addressed per SCAQMD's *Final Localized Significant (LST) Thresholds Methodology (revised 2008).*

Operational emissions include mobile source emissions, energy emissions, and area source emissions. Mobile source emissions are generated by motor vehicle trips associated with operation of the project. Emissions attributed to energy use include electricity and natural gas consumption for space and water heating. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings (i.e., paints). To determine whether a regional air quality impact would occur, the increase in emissions would be compared with the SCAQMD's recommended regional thresholds for operational emissions.

Regional Thresholds. Based on Appendix G of the *CEQA Guidelines*, a project would have a significant air quality impact if it would:

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

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation;

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

d) Expose sensitive receptors to substantial pollutant concentrations; or

e) Create objectionable odors affecting a substantial number of people.

The SCAQMD has developed specific quantitative thresholds that apply to projects within the SCAB. The following significance thresholds apply to short-term construction activities:

- *75 pounds per day of ROG*
- *100 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

The following significance thresholds apply to long-term operational emissions:

- *55 pounds per day of ROG*
- *55 pounds per day of NO_X*
- *550 pounds per day of CO*
- *150 pounds per day of SO_X*
- *150 pounds per day of PM_{10}*
- *55 pounds per day of $PM_{2.5}$*

Construction Emissions

Project construction would generate temporary air pollutant emissions. These impacts are associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction vehicles, in addition to ROG that would be released during the drying phase upon application of paint and other architectural coatings. Construction would generally consist of site preparation, grading, construction of the proposed buildings, paving, and architectural coating (i.e., paint) application.

The site preparation phase would involve the greatest concentration of heavy equipment use and the highest potential for fugitive dust emissions. The project would be required to comply with SCAQMD Rule 403, which identifies measures to reduce fugitive dust and is required to be implemented at all construction sites located within the South Coast Air Basin. Therefore, the following conditions, which are required to reduce fugitive dust in compliance with SCAQMD Rule 403, were included in CalEEMod for site preparation and grading phases of construction.

1. **Minimization of Disturbance.** Construction contractors should minimize the area disturbed by clearing, grading, earth moving, or excavation operations to prevent excessive amounts of dust.
2. **Soil Treatment.** Construction contractors should treat all graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways to minimize fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization materials, and/or roll compaction as appropriate. Watering shall be done as often as necessary, and at least three times daily, preferably in the late morning and after work is done for the day.

   Note - watering three times daily for dust control was assumed in the emissions analysis.
3. **Soil Stabilization.** Construction contractors should monitor all graded and/or excavated inactive areas of the construction site at least weekly for

dust stabilization. Soil stabilization methods, such as water and roll compaction, and environmentally safe dust control materials, shall be applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area shall be seeded and watered until landscape growth is evident, or periodically treated with environmentally safe dust suppressants, to prevent excessive fugitive dust.

4. **No Grading During High Winds.** Construction contractors should stop all clearing, grading, earth moving, and excavation operations during periods of high winds (20 miles per hour or greater, as measured continuously over a one-hour period).
5. **Street Sweeping.** Construction contractors should sweep all on-site driveways and adjacent streets and roads at least once per day, preferably at the end of the day, if visible soil material is carried over to adjacent streets and roads.

Construction emissions modeling for demolition, site preparation, grading, building construction, paving, and architectural coating application is based on the overall scope of the proposed development and construction phasing which is expected to begin mid-2017 for Phase I and early 2019 for Phase II. Construction would be complete at the end of 2019 with the project in full operation by early 2020. In addition to SCAQMD Rule 403 requirements, emissions modeling also accounts for the use of low-VOC paint (150 g/L for nonflat coatings) as required by SCAQMD Rule 1113. Table 3 summarizes the estimated maximum daily emissions of pollutants occurring during construction of Phase I and II.

Table 3
Estimated Maximum Daily Construction Emissions

Construction Phase	Maximum Emissions (lbs/day)					
	ROG	NO_x	SOx	CO	PM_{10}	$PM_{2.5}$
Phase I Emissions						
2017 Maximum lbs/day	1.3	12.9	.01	9.0	1.8	1.1
2018 Maximum lbs/day	12.6	11.1	.01	8.2	0.8	0.7
SCAQMD Regional Thresholds	*75*	*100*	*No Standard*	*550*	*150*	*55*
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**
Phase II Emissions						
2019 Maximum lbs/day	22.2	19.6	.02	14.7	6.5	3.8
SCAQMD Regional Thresholds	*75*	*100*	*No Standard*	*550*	*150*	*55*
Threshold Exceeded	**No**	**No**	**No**	**No**	**No**	**No**

As shown in Table 3, construction of the proposed project would not exceed the SCAQMD regional thresholds. With implementation of SCAQMD regulatory requirements referenced

above, no mitigation would be required to reduce construction emissions to less than significant.

Long-Term Regional Impacts

Regional Pollutant Emissions

Table 4 summarizes emissions associated with operation of the proposed project. Operational emissions include emissions from electricity consumption (energy sources), vehicle trips (mobile sources), and area sources including landscape equipment and architectural coating emissions as the structures are repainted over the life of the project. The majority of operational emissions are associated with vehicle trips to and from the project site. Trip volumes were based on trip generation factors for the proposed uses provided in the Traffic Impact Assessment and incorporated into CalEEMod.

As shown in Table 4, the net change in emissions would not exceed the SCAQMD thresholds for ROG, NO_X, CO, SO_X, PM_{10} or $PM_{2.5}$. Therefore, the project's regional air quality impacts (including impacts related to criteria pollutants, sensitive receptors and violations of air quality standards) would be less than significant.

Table 4
Estimated Operational Emissions

	Estimated Emissions (lbs/day)					
	ROG	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project - Phases I and II - 2020						
Area	1.6	0.01	0.01	.01	0.01	0.01
Energy	0.11	1.07	0.9	.01	0.08	0.08
Mobile	14.6	21.2	92.4	0.2	13.0	3.6
Maximum lbs/day	**16.3**	**22.2**	**93.3**	**0.2**	**13.1**	**3.7**
SCAQMD Thresholds	**55**	**55**	**550**	**150**	**150**	**55**
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Summer emissions shown.

Carbon Monoxide Hotspot

The nearest sensitive receptor to the project site are the residences located adjacent to and east of the site. As shown above, neither the total construction or operation emissions would exceed the SCAQMD thresholds. In addition to quantifying emissions, SCAQMD recommends performing a local CO hotspot analysis if an intersection meets one of the following criteria: 1) the intersection is at Level of Service (LOS) D or worse and where the project increases the volume to capacity ratio by 2 percent, or 2) the project decreases LOS at an intersection to D or worse. A CO hotspot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. Localized CO "hotspots" can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels

are sufficiently high such that the local CO concentration exceeds the federal AAQS of 35.0 parts per million (ppm) or the state AAQS of 20.0 ppm. Potential carbon monoxide impacts at roadway intersections were determined based on information in the traffic study (see Appendix E). As referenced in the Traffic Impact Assessment and Section XVI, *Transportation/Traffic*, with the implementation of traffic improvement measures, all intersections evaluated would operate at LOS D or better with the project during existing and opening year (Phase II - 2020) conditions. No CO hotspot would occur under operating conditions.

Objectionable Odors

The proposed project would generate odors from construction (i.e., diesel exhaust, asphalt) and during operation (i.e., fast food broilers and emissions during vehicle fueling). Construction odors would be temporary. Construction emissions would not exceed SCAQMD impact thresholds; thus, short-term odors are not expected to be significant. During operation, the project would be subject to SCAQMD Rule 1138 which addresses restaurant emissions, specifically from chain-driven char-broilers. Rule 1138 requires the use of a catalytic oxidizer control device to control emission. The fueling station would be subject to SCAQMD Rule 461 - Gasoline Transferring and Dispensing. Rule 461 requires the installation and use of dispensing equipment with vapor recovery systems designed to capture evaporative emissions and return them to the fueling system before release into the atmosphere. With the implementation of Rule 1138 and 461, odors would be **less than significant.**

AQMP Consistency

A project may be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The 2012 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local city General Plans and the Southern California Association of Government's (SCAG) Regional Transportation Plan socioeconomic forecast projections of regional population, housing and employment growth.

The proposed project involves the construction of a commercial facility. The proposed project would not result in population growth in excess of forecasts for the City of Hemet. The project would not conflict with the City of Hemet General Plan. Thus, the proposed project would not conflict with the AQMP.

GREENHOUSE GAS EMISSIONS

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-

products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride (SF_6) (California Environmental Protection Agency [CalEPA], 2006). Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2E), and is the amount of a GHG emitted multiplied by its GWP. Carbon dioxide has a GWP of one. By contrast, methane (CH_4) has a GWP of 21, meaning its global warming effect is 21 times greater than carbon dioxide on a molecule per molecule basis (IPCC, 1997).

Total U.S. GHG emissions were 6,821.8 MMT CO_2E in 2009 (U.S. EPA, April 2012). Total U.S. emissions have increased by 10.5 percent since 1990; emissions rose by 3.2 percent from 2009 to 2010 (U.S. EPA, April 2012). This increase was due in part to (1) an increase in economic output resulting in greater energy consumption across all sectors; and (2) warmer summer conditions resulting in an increase in electricity demand for air conditioning. In 2010, the transportation and industrial end-use sectors accounted for 32 percent and 26 percent of CO_2 emissions from fossil fuel combustion, respectively. The residential and commercial end-use sectors accounted for 22 percent and 19 percent of CO_2 emissions from fossil fuel combustion, respectively, during 2010 (U.S. EPA, April 2012). U.S. GHG emissions were 6,673 MMT of CO_2E in 2013 which was a 2% increase over 2012 emissions but 9% below 2005 levels. In 2013, the transportation and industrial end-use sectors accounted for 27 percent and 21 percent of CO_2 emissions from fossil fuel combustion, respectively. Meanwhile, the residential and commercial end-use sectors accounted for 12 percent of CO_2 emissions from fossil fuel combustion (U.S. EPA, April 2015).

Based upon the California Air Resources Board (ARB) California Greenhouse Gas Inventory for 2000-2009 (ARB, October 2011), California produced 453 MMT CO_2E in 2009. The major source of GHG in California is transportation, contributing 38 percent of the state's total GHG emissions. Electricity generation is the second largest source, contributing 23 percent of the state's GHG emissions (ARB, October 2011). In 2013, the GHG emissions were 459.3 MMT of CO_2E. The major source of GHG in California continues to be transportation, contributing 37 percent of the state's total GHG emissions. Industrial emissions replaced electricity generation as the second largest source, contributing 23 percent of the state's GHG emissions (ARB, June 2015).

California emissions result in part to its geographic size and large population compared to other states. However, a factor that reduces California's per capita fuel use and GHG emissions, as compared to other states, is its relatively mild climate. The ARB has projected statewide unregulated GHG emissions for the year 2020 is projected to be 509 MMT CO_2E (ARB, May 2014). These projections are based on Business As Usual (BAU) conditions and represent the emissions that would be expected to occur in the absence of any GHG reduction actions.

California Regulations

In 2005, former Governor Schwarzenegger issued Executive Order (EO) S-3-05, establishing statewide GHG emissions reduction targets. EO S-3-05 provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions

shall be reduced to 80 percent of 1990 levels (CalEPA, 2006). In response to EO S-3-05, CalEPA created the Climate Action Team (CAT), which in March 2006 published the Climate Action Team Report (the "2006 CAT Report") (CalEPA, 2006). The 2006 CAT Report recommended various strategies that the state could pursue to reduce GHG emissions. These strategies could be implemented by various state agencies to ensure that the emission reduction targets in EO S-3-05 are met and can be met with existing authority of the state agencies. The strategies include the reduction of passenger and light duty truck emissions, the reduction of idling times for diesel trucks, an overhaul of shipping technology/infrastructure, increased use of alternative fuels, increased recycling, and landfill methane capture, etc.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the "California Global Warming Solutions Act of 2006," signed into law in 2006. AB 32 codifies the Statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15% reduction below 2005 emission levels; the same requirement as under S-3-05), and requires ARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires ARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, the ARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2E. The Scoping Plan was approved by ARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms.

Executive Order S-01-07 was enacted on January 18, 2007. The order mandates that a Low Carbon Fuel Standard ("LCFS") for transportation fuels be established for California to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020.

Local Regulations and CEQA Requirements

Pursuant to the requirements of SB 97, the Resources Agency has adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted CEQA Guidelines provide general regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, but contain no suggested thresholds of significance for GHG emissions. Instead, they give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts. The general approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move the state towards climate stabilization. If a project would generate GHG emissions above the threshold level, its contribution to cumulative impacts would be considered significant. To date, the Bay Area Air Quality Management District (BAAQMD), the South Coast Air Quality Management District (SCAQMD), and the San Joaquin Air Pollution Control District (SJVAPCD) have adopted quantitative significance thresholds for GHGs. However, in March 2013 the Bay Area's thresholds were overruled by the Alameda County Superior Court (*California Building Industry*

Association v. Bay Area Air Quality Management District), on the basis that adoption of the thresholds constitutes a "project" under CEQA, but did not receive the appropriate environmental review. As a result, BAAQMD has elected to not recommend specific GHG thresholds for use in CEQA documents.

The SCAQMD threshold, which was adopted in December 2008, considers emissions of over 10,000 metric tons CO2E /year to be significant. However, the SCAQMD's threshold applies only to stationary sources and is expressly intended to apply only when the SCAQMD is the CEQA lead agency. Although not formally adopted, the SCAQMD has developed a draft quantitative threshold for all land use types of 3,000 metric tons CO_2E /year (SCAQMD, September 2010). Note that lead agencies retain the responsibility to determine significance on a case-by-case basis for each specific project.

CLIMATE CHANGE IMPACT ANALYSIS

Thresholds of Significance

Pursuant to the requirements of SB 97, the Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions in March 2010. These guidelines are used in evaluating the cumulative significance of GHG emissions from the proposed project. According to the adopted CEQA Guidelines, impacts related to GHG emissions from the proposed project would be significant if the project would:

- *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and/or*
- *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.*

The vast majority of individual projects do not generate sufficient GHG emissions to create a project-specific impact through a direct influence to climate change; therefore, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15355).

For future projects, the significance of GHG emissions may be evaluated based on locally adopted quantitative thresholds, or consistency with a regional GHG reduction plan (such as a Climate Action Plan). However, because no GHG emissions reduction plan or GHG emissions threshold has been adopted by the City of Corona, the proposed project is evaluated based on SCAQMD's recommended/preferred option threshold for all land use types of 3,000 metric tons CO_2E per year. To determine whether GHG emissions associated with the proposed project are "cumulatively considerable," consistency with applicable GHG emissions reductions strategies recommended by the 2006 CAT Report and the California Attorney General's Office as well as project consistency with the City of Corona Climate Action Plan (2012) is discussed herein.

Methodology

GHG emissions associated with construction and operation of the proposed project and existing development have been estimated using California Emissions Estimator Model (CalEEMod) version 2013.2.2

Construction Emissions

Construction of the proposed project would generate temporary GHG emissions primarily associated with the operation of construction equipment and truck trips. Site preparation and grading typically generate the greatest emission quantities because the use of heavy equipment is greatest during this phase of construction. Emissions associated with the Phase I and Phase II construction periods were estimated based on the projected maximum amount of equipment that would be used onsite. Air districts such as the SCAQMD have recommended amortizing construction-related emissions over a 30-year period to calculate annual emissions. Complete CalEEMod results and assumptions can be viewed in the Appendix.

Operational Emissions

Default values used in CalEEMod version 2013.2.2 are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies. CalEEMod provides operational emissions of CO_2, N_2O and CH_4. This methodology has been subjected to peer review by numerous public and private stakeholders, and in particular by the CEC; and therefore, is considered reasonable and reliable for use in GHG impact analysis pursuant to CEQA. It is also recommended by CAPCOA (January 2008).

Emissions associated with area sources (i.e., consumer products, landscape maintenance, and architectural coating) were calculated in CalEEMod based on standard emission rates from CARB, USEPA, and district supplied emission factor values (CalEEMod User Guide, 2013). Emissions from waste generation were also calculated in CalEEMod and are based on the IPCC's methods for quantifying GHG emissions from solid waste using the degradable organic content of waste (CalEEMod User Guide, 2013). Waste disposal rates by land use and overall composition of municipal solid waste in California was primarily based on data provided by the California Department of Resources Recycling and Recovery (CalRecycle).

Emissions from water and wastewater usage calculated in CalEEMod were based on the default electricity intensity from the CEC's 2006 Refining Estimates of Water-Related Energy Use in California using the average values for Northern and Southern California. Emissions from mobile sources were quantified based on trip generation estimates included in CalEEMod version 2013.2.2 for single family residential projects.

Estimate of GHG Emissions

Construction Emissions

Phase I construction is expected to occur over a 12 month period beginning June, 2017 and ending June, 2018. Phase II is expected to begin in early 2019 and be completed in late 2019 with

operation of the project beginning in 2020. Based on CalEEMod results, construction activity for the project would generate an estimated 342 metric tons of carbon dioxide equivalent (CO_2E), as shown in Table 5. This includes a total of 133 metric tons in 2017/2018 during Phase I and 209 in 2019 as Phase II is constructed. Amortized over a 30-year period (the assumed life of the project), construction of the proposed project would generate 11 metric tons of CO_2E per year.

Table 5
Estimated Construction Related Greenhouse Gas Emissions

Year	Annual Emissions (metric tons CO_2E)
2017	85
2018	48
2019	209
Total	**342**
Amortized over 30 years	**11 metric tons per year**

See Appendix for CalEEMod software program output for new construction.

Operational Indirect and Stationary Direct Emissions

Long-term emissions relate to energy use, solid waste, water use, and transportation. Each source is discussed below and includes the unmitigated emissions associated with the proposed project.

Energy Use. Operation of onsite development would consume both electricity and natural gas (see Appendix for CalEEMod results). The generation of electricity through combustion of fossil fuels typically yields CO_2, and to a smaller extent, N_2O and CH_4. Natural gas emissions can be calculated using default values from the CEC sponsored CEUS and RASS studies which are built into CalEEMod. As shown in Table 6, the overall net increase in energy use at the project site would result in approximately 664 metric tons of CO_2E per year.

Water Use Emissions. The CalEEMod results indicate that without mitigation, the project would use approximately 9.6 million gallons of water per year. Based on the amount of electricity generated to supply and convey this amount of water, as shown in Table 7, the project would generate approximately 45 metric tons of CO_2E per year.

Solid Waste Emissions. For solid waste generated onsite, it was assumed that the project would not implement a municipal recycling program that would achieve a 50% diversion rate, as required by the California Integrated Waste Management Act of 1989 (AB 939). The CalEEMod results indicate that the project would result in approximately 97 metric tons of CO_2E per year associated with solid waste disposed within landfills.

Table 6
Estimated Annual Energy-Related Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Proposed Project	
Electricity	435 metric tons
Natural Gas	229 metric tons
Total	**664 metric tons**

See Appendix for CalEEMod software program output.

Table 7
Estimated Annual
Solid Waste and Water Use Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Water	45 metric tons
Solid Waste	97 metric tons
Total Water and Solid Waste	**142 metric tons**

See Appendix for CalEEMod software program output.

Transportation Emissions. Mobile source GHG emissions were estimated using the average daily trips calculated by CalEEMod for the land use types associated with the project. Adjustments were made to the default trip generation rates to reflect daily VMT provided in the Traffic Impact Assessment. These values reduce the overall VMT that result from internal capture and pass-by trips. Table 8 shows the estimated unmitigated mobile emissions of GHGs for the project based on the estimated annual VMT of 7,871,855. CalEEMod does not calculate N_2O emissions related to mobile sources. As such, N_2O emissions were calculated based on the project's VMT using calculation methods provided by the California Climate Action Registry General Reporting Protocol (January 2009). As shown in Table 8, the project would generate approximately 5,542 metric tons of CO_2E (including 288 MT of NOx) associated with new vehicle trips.

Table 8
Estimated Annual Mobile Emissions of Greenhouse Gases

Emission Source	Annual Emissions (CO_2E)[1]
Proposed Project	
Mobile Emissions (CO_2 & CH_4)[2]	3,047 metric tons
Mobile Emissions (N_2O)[2]	172 metric tons
Total	**3,219 metric tons**

See Appendix for CalEEMod software program output (demolitions and new construction).
1: See Appendix for calculations in CalEEMod output.
2: See Appendix for calculations according to California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009, page 30-35.
See Appendix for calculations and for GHG emission factor assumptions.

Combined Construction, Stationary and Mobile Source Emissions

Table 9 combines the net new construction, operational, and mobile GHG emissions associated with the proposed project. As discussed above, temporary emissions associated with construction activity (approximately 342 metric tons CO_2E) are amortized over 30 years (the anticipated life of the project).

Table 9
Combined Annual Greenhouse Gas Emissions

Emission Source	Annual Emissions (CO_2E)
Construction	11 metric tons
Operational	
Energy	664 metric tons
Solid Waste	97 metric tons
Water	45 metric tons
Mobile	3,219 metric tons
Total	**4,036 metric tons**

See Appendix for CalEEMod software program output (demolition and new construction).

For the proposed project, the combined annual emissions would total approximately 4,036 metric tons per year in CO_2E. This total represents less than 0.001% of California's total 2013 emissions of 459.3 million metric tons. The majority (79%) of the project's GHG emissions are associated with motor vehicular travel. As noted above, neither the SCAQMD nor the City of Hemet has adopted GHG emissions thresholds that apply to land use projects. Therefore, the proposed project is evaluated based on the SCAQMD's recommended/preferred option threshold of 3,000 metric tons CO_2E per year for all land use types (SCAQMD, September 2008). **Project-related annual GHG emissions would exceed the threshold of 3,000 metric tons per year; therefore, without measures to reduce GHG emissions, this would be significant per the CEQA thresholds.**

GHG Cumulative Significance. As discussed above, a proposed project exceeding the 3,000 annual MT screening threshold could have a significant environmental impact under CEQA. The calculations presented herein show unmitigated "business as usual" (BAU) emissions. The BAU calculation is an estimate of GHG emissions that would be expected to occur without any GHG reducing features or mitigation, consistent with AB 32. In the absence of specific federal, state or local thresholds, GHG emissions associated with a specific project are not considered cumulatively significant if design and operational features incorporated into a project reduces emissions by more than approximately 28.3%. This is statewide average necessary to achieve AB 32 GHG reduction goals. As shown in Table 9, BAU GHG emissions

exceed the 3,000 MT annual MT screening threshold. Therefore, under these baseline conditions the project would be considered a significant contributor to cumulative GHG emissions. However, the project employs mitigation strategies which lower GHG emissions by greater than 28.3%.

For the proposed project, GHG emissions would be reduced from the BAU scenario as a result of the proposed project amenities and design and operational features. However, additional project features are required to reduce an impact to less than significant. To reduce energy consumption, proposed features include

- Exceed California Energy Code Title 24 by 15%;
- Install high efficiency lighting that exceeds Ttitle 24 standard by 15%;
- Install energy efficient mechanical systems and applicances;
- Implement on-site recycling to achieve at least a 50% waste diversion rate;
- Install low flow plumbing fixtures;
- Install water efficient irrigation system to achive 6.1% reduction in water use; and
- Install pedestrian network improvements to facilitate site access for pedestrians;

Project features that reduce VMT are the location in proximity to transit (Riverside Transit Agency Route 33), intersection improvements associated with traffic mitigation, adding new jobs and increasing the density of onsite development within an urbanizing area (urban infill). Table 10 lists existing State measures for GHG emissions reductions and quantifies the total reduction in metric tons of CO_2E per year that the proposed project would generate in comparison to the BAU scenario. These features were included in CalEEMod and are represented below in Table 10.

Table 10
Existing State Measures For Greenhouse Gas Emissions Reductions

Measure	Sector	% Reduction from Business-As-Usual Scenario (Sector Specific)[1]	Total CDE from Business-As-Usual Scenario Sector[2]	Total CDE Reduced
Renewable Portfolio Standard (33% by 2020)	Energy Use (Electricity)	15.30%	435	67
2008 Title 24 Energy Code Requirements	Energy Use (Natural Gas and Electricity)	15%	664	100
Assembly Bill 1493: Pavley I & II	Transportation	14.06%	3,219	453
Executive Order S-1-07 (Low Carbon Fuel Standard)	Transportation	6.6%	3,219	212

[1] Percent reduction from business as usual calculated based on the CARB Scoping Plan reductions for sector-specific activity. CARB Scoping Plan, December 2008.

[2] Emissions from individual sectors as listed in Table 6: Combined Annual Emissions of Greenhouse Gases Business As Usual Scenario.

With implementation of existing state measures, GHG emissions would be reduced by approximately 832 MT annually. Table 11 shows the mitigated GHG emissions associated with implementing the above-referenced design/operational features.

Table 11
Combined Annual Emissions of Greenhouse Gases

Emission Source / Design Feature to Reduce GHG Emissions	Annual Emissions/MT CO_2E
Construction	11
Electricity/Natural Gas Electricity a) Condition project to exceed Title 24 by 15% b) Condition project to install high efficiency lighting that will reduce BAU emergy demand by 15% Natural Gas	 393 218
Solid Waste Implement on –site recycling program to achieve 50% landfill diversion.	48
Water	37

Table 11
Combined Annual Emissions of Greenhouse Gases

Emission Source / Design Feature to Reduce GHG Emissions	Annual Emissions/MT CO_2E
Water Use Reduction a) Low Flow Plumbing Fixtures – Install low flow plumbing fixtures in all building to reduce water use. b) Install water efficient irrigation systems.	
Transportation a) Proximity to public transportation b) Proximity to downtown and job centers c) Urban infill	
Mobile Emissions (CO_2 & CH_4)	2,417
Mobile Emissions (N_2O)	131
Total with Design Features to Reduce GHG Emissions	**3,255 MT CO_2E**
BAU Total	**4,036 MT CO_2E**
Reduction of Emissions Compared to BAU Total	**781 MT CO_2E (19%)**

Sources: See Appendix A for calculations and for GHG emission factor assumptions

With implementation of design features identified above, project emissions would be reduced by an additional 781 MT. Combined with the existing state measures, the total reduction from BAU would be 1,613 MT annually. Total annual GHG emissions would be 2,473 which would be below the 3,000 MT annual standard. GHG emissions would be **less than significant.**

As discussed, the CAT published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the "2006 CAT Report") in March 2006. The CAT Report identifies a recommended list of strategies that the State could pursue to reduce GHG emissions. The CAT strategies are recommended to reduce GHG emissions at a statewide level to meet the goals of the Executive Order S-3-05. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies. In addition, in 2008 the California Attorney General published The California Environmental Quality Act Addressing Global Warming Impacts at the Local Agency Level (Office of the California Attorney General, Global Warming Measures Updated May 21, 2008). This document provides information that may be helpful to local agencies in carrying out their duties under CEQA as they relate to global warming. Included in this document are various measures that may reduce the global warming related impacts of a project. Tables 12 and 13 illustrate that the proposed project would be consistent with the GHG reduction strategies set forth by the 2006 CAT Report as well as the 2008 Attorney General's Greenhouse Gas Reduction Measures.

Table 12
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
California Air Resources Board	
Vehicle Climate Change Standards AB 1493 (Pavley) required the state to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of climate change emissions emitted by passenger vehicles and light duty trucks. Regulations were adopted by the ARB in September 2004.	*Consistent.* The vehicles that travel to and from the project site on public roadways would be in compliance with ARB vehicle standards that are in effect at the time of vehicle purchase.
Diesel Anti-Idling The ARB adopted a measure to limit diesel-fueled commercial motor vehicle idling in July 2004.	*Consistent.* Current State law restricts diesel truck idling to five minutes or less. Diesel trucks operating from and making deliveries to the project site during construction and operation are subject to this state-wide law.
Hydrofluorocarbon Reduction 1) Ban retail sale of HFC in small cans. 2) Require that only low GWP refrigerants be used in new vehicular systems. 3) Adopt specifications for new commercial refrigeration. 4) Add refrigerant leak-tightness to the pass criteria for vehicular inspection and maintenance programs. 5) Enforce federal ban on releasing HFCs.	*Consistent.* This strategy applies to consumer products. All applicable products used and sold on-site would be required to comply with the regulations that are in effect at the time of manufacture.
Alternative Fuels: Biodiesel Blends ARB would develop regulations to require the use of 1 to 4% biodiesel displacement of California diesel fuel.	*Consistent.* The diesel vehicles such as construction and delivery vehicles that travel to and from the project site on public roadways could utilize this fuel once commercially available.
Alternative Fuels: Ethanol Increased use of E-85 fuel.	*Consistent.* Customers could choose to purchase flex-fuel vehicles and utilize this fuel once commercially available.
Heavy-Duty Vehicle Emission Reduction Measures Increased efficiency in the design of heavy duty vehicles and an education program for the heavy duty vehicle sector.	*Consistent.* The heavy-duty vehicles for construction and deliveries that travel to and from the project site on public roadways would be subject to all applicable ARB efficiency standards that are in effect at the time of vehicle manufacture.
Achieve 50% Statewide Recycling Goal Achieving the State's 50% waste diversion mandate as established by the Integrated Waste Management Act of 1989, (AB 939, Sher, Chapter 1095, Statutes of 1989), will reduce climate change emissions associated with energy intensive material extraction and production as well as methane emission from landfills. A diversion rate of 48% has been achieved on a statewide basis. Therefore, a 2% additional reduction is needed.	*Consistent.* The City of Hemet has enacted programs to achieve the mandated 50% diversion. It is anticipated that the proposed project would participate in a waste diversion program and would similarly divert at least 50% of its solid waste. The project would also be subject to all applicable State and County requirements for solid waste reduction as they change in the future.
Department of Water Resources	
Water Use Efficiency Approximately 19% of all electricity, 30% of all natural gas, and 88 million gallons of diesel are used to convey, treat, distribute and use water and wastewater. Increasing the efficiency of water transport and reducing water use would reduce greenhouse gas emissions.	*Consistent.* The proposed project would not be precluded from incorporating water saving features, such as the use of gray water for landscape irrigation and providing low flow plumbing fixtures. The project would be conditioned to provide water efficient irrigation systems as well as install low flow fixtures. In addition, the project would be required to comply with other relevant State and local measures that address water use and conservation.
Energy Commission (CEC)	

Table 12
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
Building Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the CEC to adopt and periodically update its building energy efficiency standards (that apply to newly constructed buildings and additions to and alterations to existing buildings).	*Consistent.* The proposed project would be conditioned to exceed standards of Title 24 by 15% and install high efficiency lighting to reduce energy demand by 15%. Both measures will contribute to an overall reduction in GHG emissions.
Appliance Energy Efficiency Standards in Place and in Progress Public Resources Code 25402 authorizes the Energy Commission to adopt and periodically update its appliance energy efficiency standards (that apply to devices and equipment using energy that are sold or offered for sale in California).	*Consistent.* Under State law, appliances that are purchased for the project would be consistent with energy efficiency standards that are in effect at the time of manufacture.
Fuel-Efficient Replacement Tires & Inflation Programs State legislation established a statewide program to encourage the production and use of more efficient tires.	*Consistent.* Vendors and customers could purchase tires for their vehicles that comply with state programs for increased fuel efficiency.
Municipal Utility Energy Efficiency Programs/Demand Response Includes energy efficiency programs, renewable portfolio standard, combined heat and power, and transitioning away from carbon-intensive generation.	*Not applicable*, but project development would not preclude the implementation of this strategy by municipal utility providers.
Municipal Utility Renewable Portfolio Standard California's Renewable Portfolio Standard (RPS), established in 2002, requires that all load serving entities achieve a goal of 20% of retail electricity sales from renewable energy sources by 2017, within certain cost constraints.	*Not applicable*, but the project would not preclude the implementation of this strategy by Southern California Edison.
Municipal Utility Combined Heat and Power Cost effective reduction from fossil fuel consumption in the commercial and industrial sector through the application of on-site power production to meet both heat and electricity loads.	*Not applicable* since this strategy addresses incentives that could be provided by utility providers such as Southern California Edison and The Gas Company.
Alternative Fuels: Non-Petroleum Fuels Increasing the use of non-petroleum fuels in California's transportation sector, as recommended as recommended in the CEC's 2003 and 2005 Integrated Energy Policy Reports.	*Consistent.* Vendors and customers could purchase alternative fuel vehicles and utilize these fuels once they are commercially available regionally and locally.
Green Buildings Initiative Green Building Executive Order, S-20-04 (CA 2004), sets a goal of reducing energy use in public and private buildings by 20% by the year 2015, as compared with 2003 levels. The Executive Order and related action plan spell out specific actions state agencies are to take with state-owned and -leased buildings. The order and plan also discuss various strategies and incentives to encourage private building owners and operators to achieve the 20% target.	*Consistent.* As discussed previously, the project would be conditioned to exceed Title 24 by 15% and install high efficiency lighting that reduced lighting energy demand by 15%.
Business, Transportation and Housing	

Table 12
Project Consistency with Applicable Climate Action Team Greenhouse Gas Emission Reduction Strategies

Strategy	*Project Consistency*
Smart Land Use and Intelligent Transportation Systems (ITS) Smart land use strategies encourage jobs/housing proximity, promote transit-oriented development, and encourage high-density residential/commercial development along transit corridors. ITS is the application of advanced technology systems and management strategies to improve operational efficiency of transportation systems and movement of people, goods and services. The Governor is finalizing a comprehensive 10-year strategic growth plan with the intent of developing ways to promote, through state investments, incentives and technical assistance, land use, and technology strategies that provide for a prosperous economy, social equity and a quality environment. Smart land use, demand management, ITS, and value pricing are critical elements in this plan for improving mobility and transportation efficiency. Specific strategies include: promoting jobs/housing proximity and transit-oriented development; encouraging high density residential/commercial development along transit/rail corridor; valuing and congestion pricing; implementing intelligent transportation systems, traveler information/traffic control, incident management; accelerating the development of broadband infrastructure; and comprehensive, integrated, multimodal/intermodal transportation planning.	*Consistent.* The project is intended to provide commercial uses in the City of Hemet. Transit options are available in proximity to the site. Other land use and transportation management tools can be incorporated as needed to improve the efficiency of land use development as it relates to transportation access.
Public Utilities Commission (PUC)	
Accelerated Renewable Portfolio Standard The Governor has set a goal of achieving 33% renewable in the State's resource mix by 2020. The joint PUC/Energy Commission September 2005 Energy Action Plan II (EAP II) adopts the 33% goal.	*Not applicable*, but project development would not preclude the implementation of this strategy by energy providers.

Table 13
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Transportation-Related Emissions	
Diesel Anti-Idling Set specific limits on idling time for commercial vehicles, including delivery vehicles.	*Consistent.* Currently, the California Air Resources Board's (CARB) Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling restricts diesel truck idling to five minutes or less. Construction vehicles are subject to this regulation.

Table 13
Project Consistency with Applicable Attorney General Greenhouse Gas Reduction Measures

Strategy	*Project Consistency*
Transportation Emissions Reduction Provide services that improve access to public transportation.	Not applicable. The project site is located in an urbanizing residential/commercial area. Transit is available in the general area but the project would not improve access to public transportation.
Solid Waste and Energy Emissions	
Solid Waste Reduction Strategy Project construction shall require reuse and recycling of construction and demolition waste.	*Consistent.* It is anticipated that the proposed project would participate in a waste diversion programs and would divert at least 50% of its solid waste from construction.
Water Use Efficiency Require measures that reduce the amount of water sent to the sewer system – see examples in CAT standard above. (Reduction in water volume sent to the sewer system means less water has to be treated and pumped to the end user, thereby saving energy.	*Consistent.* As described above, the proposed project would incorporate water efficient landscaping irrigation systems and install low flow plumbing fixtures. In addition, the project would be required to comply with all State and local measures that address water use and conservation.
Land Use Measures, Smart Growth Strategies and Carbon Offsets	
Smart Land Use and Intelligent Transportation Systems Require pedestrian-only streets and plazas within the project site and destinations that may be reached conveniently by public transportation, walking or bicycling.	*Consistent.* The project site is located in an urban area with transit access though no services are available in the immediate area. The project would provide pedestrian and bicycle access.

As indicated in Tables 10 through 13, the proposed project would be consistent with the applicable CAT strategies, 2008 Attorney General Greenhouse Gas Reduction Measures and applicable City of Corona CAP GHG reduction measures.

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Appendix A

CalEEMod Air Quality and Greenhouse Gas Emissions Model Results – Summer/Annual, and N_2O from Mobile Emissions Sources

Zanderson Plaza - Phases I and II Operation BAU

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	15.00	1000sqft	0.34	15,000.00	0
Convenience Market With Gas Pumps	20.00	Pump	0.06	7,050.00	0
Regional Shopping Center	39.50	1000sqft	0.91	39,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2020
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 - Uses based on trip generation memorandum provided by Kunzman and Associates, Inc. (September, 2016)
Square footage based on information provided by applicant for fast food restaurant, gasoline/service station and regional shopping center

Construction Phase - Construction duration estimated based on 12 month construction period begining January 1, 2019.

Grading - Total site is 8.4 acres. A total of 4.4 acres assumed to be developed in Phase I.

Vehicle Trips - Trip generation rates for each use was reduced by 60% to account for internal capture and pass-by trip reduction as presented in the Traffic Impact Assessment

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation - Scenario assumed no measures to reduce VMT

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	2,823.50	7,050.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	204.47	68.70
tblVehicleTrips	ST_TR	722.03	223.20
tblVehicleTrips	ST_TR	49.97	41.30
tblVehicleTrips	SU_TR	166.88	68.70
tblVehicleTrips	SU_TR	542.72	223.20
tblVehicleTrips	SU_TR	25.24	41.30
tblVehicleTrips	WD_TR	542.60	68.70
tblVehicleTrips	WD_TR	496.12	223.20
tblVehicleTrips	WD_TR	42.94	41.30

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	142.9882	24.2613	16.3374	0.0269	5.8890	1.3073	7.1963	2.9774	1.2027	4.1801	0.0000	2,465.7865	2,465.7865	0.5404	0.0000	2,477.1341
Total	**142.9882**	**24.2613**	**16.3374**	**0.0269**	**5.8890**	**1.3073**	**7.1963**	**2.9774**	**1.2027**	**4.1801**	**0.0000**	**2,465.7865**	**2,465.7865**	**0.5404**	**0.0000**	**2,477.1341**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	142.9882	24.2613	16.3374	0.0269	2.3513	1.3073	3.6585	1.1757	1.2027	2.3784	0.0000	2,465.7865	2,465.7865	0.5404	0.0000	2,477.1341
Total	**142.9882**	**24.2613**	**16.3374**	**0.0269**	**2.3513**	**1.3073**	**3.6585**	**1.1757**	**1.2027**	**2.3784**	**0.0000**	**2,465.7865**	**2,465.7865**	**0.5404**	**0.0000**	**2,477.1341**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**60.07**	**0.00**	**49.16**	**60.51**	**0.00**	**43.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6102	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172
Energy	0.1262	1.1471	0.9636	6.8800e-003		0.0872	0.0872		0.0872	0.0872		1,376.5177	1,376.5177	0.0264	0.0252	1,384.8949
Mobile	15.1629	25.2997	106.1709	0.2576	16.6791	0.3926	17.0717	4.4509	0.3620	4.8129		19,834.7894	19,834.7894	0.6103		19,847.6047
Total	**16.8993**	**26.4469**	**107.1421**	**0.2644**	**16.6791**	**0.4798**	**17.1589**	**4.4509**	**0.4492**	**4.9001**		**21,211.3233**	**21,211.3233**	**0.6367**	**0.0252**	**21,232.5168**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.6102	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172
Energy	0.1184	1.0762	0.9040	6.4600e-003		0.0818	0.0818		0.0818	0.0818		1,291.4165	1,291.4165	0.0248	0.0237	1,299.2759
Mobile	14.6430	21.2053	92.4062	0.2005	12.7087	0.3116	13.0203	3.3914	0.2873	3.6787		15,439.7639	15,439.7639	0.4948		15,450.1547
Total	**16.3716**	**22.2815**	**93.3178**	**0.2069**	**12.7087**	**0.3934**	**13.1021**	**3.3914**	**0.3691**	**3.7605**		**16,731.1968**	**16,731.1968**	**0.5196**	**0.0237**	**16,749.4478**

	ROG	NOx	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	**3.12**	**15.75**	**12.90**	**21.75**	**23.80**	**18.01**	**23.64**	**23.80**	**17.82**	**23.26**	**0.00**	**21.12**	**21.12**	**18.39**	**6.18**	**21.11**

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	1/1/2017	1/3/2017	5	2	
2	Grading	Grading	1/4/2017	1/9/2017	5	4	
3	Building Construction	Building Construction	1/10/2017	10/16/2017	5	200	
4	Paving	Paving	10/17/2017	10/30/2017	5	10	
5	Architectural Coating	Architectural Coating	10/31/2017	11/13/2017	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,325; Non-Residential Outdoor: 30,775 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	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 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7996	0.0000	5.7996	2.9537	0.0000	2.9537			0.0000			0.0000
Off-Road	2.3109	24.2288	15.9299	0.0171		1.3067	1.3067		1.2022	1.2022		1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**2.3109**	**24.2288**	**15.9299**	**0.0171**	**5.7996**	**1.3067**	**7.1063**	**2.9537**	**1.2022**	**4.1559**		**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

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	0.0275	0.0325	0.4075	1.0700e-003	0.0894	5.4000e-004	0.0900	0.0237	5.0000e-004	0.0242		85.2525	85.2525	3.5100e-003		85.3263
Total	**0.0275**	**0.0325**	**0.4075**	**1.0700e-003**	**0.0894**	**5.4000e-004**	**0.0900**	**0.0237**	**5.0000e-004**	**0.0242**		**85.2525**	**85.2525**	**3.5100e-003**		**85.3263**

3.2 Site Preparation - 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					
Fugitive Dust					2.2618	0.0000	2.2618	1.1519	0.0000	1.1519			0.0000			0.0000
Off-Road	2.3109	24.2288	15.9299	0.0171		1.3067	1.3067		1.2022	1.2022	0.0000	1,752.1239	1,752.1239	0.5369		1,763.3977
Total	**2.3109**	**24.2288**	**15.9299**	**0.0171**	**2.2618**	**1.3067**	**3.5686**	**1.1519**	**1.2022**	**2.3541**	**0.0000**	**1,752.1239**	**1,752.1239**	**0.5369**		**1,763.3977**

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	0.0275	0.0325	0.4075	1.0700e-003	0.0894	5.4000e-004	0.0900	0.0237	5.0000e-004	0.0242		85.2525	85.2525	3.5100e-003		85.3263
Total	**0.0275**	**0.0325**	**0.4075**	**1.0700e-003**	**0.0894**	**5.4000e-004**	**0.0900**	**0.0237**	**5.0000e-004**	**0.0242**		**85.2525**	**85.2525**	**3.5100e-003**		**85.3263**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9143	0.0000	4.9143	2.5256	0.0000	2.5256			0.0000			0.0000
Off-Road	1.8844	19.7889	13.1786	0.0141		1.0661	1.0661		0.9808	0.9808		1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**1.8844**	**19.7889**	**13.1786**	**0.0141**	**4.9143**	**1.0661**	**5.9804**	**2.5256**	**0.9808**	**3.5064**		**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

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	0.0275	0.0325	0.4075	1.0700e-003	0.0894	5.4000e-004	0.0900	0.0237	5.0000e-004	0.0242		85.2525	85.2525	3.5100e-003		85.3263
Total	**0.0275**	**0.0325**	**0.4075**	**1.0700e-003**	**0.0894**	**5.4000e-004**	**0.0900**	**0.0237**	**5.0000e-004**	**0.0242**		**85.2525**	**85.2525**	**3.5100e-003**		**85.3263**

3.3 Grading - 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					
Fugitive Dust					1.9166	0.0000	1.9166	0.9850	0.0000	0.9850			0.0000			0.0000
Off-Road	1.8844	19.7889	13.1786	0.0141		1.0661	1.0661		0.9808	0.9808	0.0000	1,439.1894	1,439.1894	0.4410		1,448.4496
Total	**1.8844**	**19.7889**	**13.1786**	**0.0141**	**1.9166**	**1.0661**	**2.9827**	**0.9850**	**0.9808**	**1.9658**	**0.0000**	**1,439.1894**	**1,439.1894**	**0.4410**		**1,448.4496**

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	0.0275	0.0325	0.4075	1.0700e-003	0.0894	5.4000e-004	0.0900	0.0237	5.0000e-004	0.0242		85.2525	85.2525	3.5100e-003		85.3263
Total	**0.0275**	**0.0325**	**0.4075**	**1.0700e-003**	**0.0894**	**5.4000e-004**	**0.0900**	**0.0237**	**5.0000e-004**	**0.0242**		**85.2525**	**85.2525**	**3.5100e-003**		**85.3263**

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	2.9546	19.1088	14.3110	0.0220		1.2257	1.2257		1.1823	1.1823		2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**2.9546**	**19.1088**	**14.3110**	**0.0220**		**1.2257**	**1.2257**		**1.1823**	**1.1823**		**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

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	0.0702	0.7611	0.8202	2.1000e-003	0.0629	0.0146	0.0775	0.0180	0.0134	0.0314		207.7127	207.7127	1.3200e-003		207.7405
Worker	0.0721	0.0853	1.0695	2.8200e-003	0.2347	1.4300e-003	0.2362	0.0623	1.3200e-003	0.0636		223.7878	223.7878	9.2200e-003		223.9814
Total	**0.1423**	**0.8464**	**1.8897**	**4.9200e-003**	**0.2977**	**0.0160**	**0.3137**	**0.0802**	**0.0148**	**0.0950**		**431.5005**	**431.5005**	**0.0105**		**431.7219**

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	2.9546	19.1088	14.3110	0.0220		1.2257	1.2257		1.1823	1.1823	0.0000	2,034.2860	2,034.2860	0.4268		2,043.2497
Total	**2.9546**	**19.1088**	**14.3110**	**0.0220**		**1.2257**	**1.2257**		**1.1823**	**1.1823**	**0.0000**	**2,034.2860**	**2,034.2860**	**0.4268**		**2,043.2497**

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	0.0702	0.7611	0.8202	2.1000e-003	0.0629	0.0146	0.0775	0.0180	0.0134	0.0314		207.7127	207.7127	1.3200e-003		207.7405
Worker	0.0721	0.0853	1.0695	2.8200e-003	0.2347	1.4300e-003	0.2362	0.0623	1.3200e-003	0.0636		223.7878	223.7878	9.2200e-003		223.9814
Total	**0.1423**	**0.8464**	**1.8897**	**4.9200e-003**	**0.2977**	**0.0160**	**0.3137**	**0.0802**	**0.0148**	**0.0950**		**431.5005**	**431.5005**	**0.0105**		**431.7219**

3.5 Paving - 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	1.1857	12.0981	9.0308	0.0133		0.7333	0.7333		0.6755	0.6755		1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1857**	**12.0981**	**9.0308**	**0.0133**		**0.7333**	**0.7333**		**0.6755**	**0.6755**		**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

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	0.0446	0.0528	0.6621	1.7400e-003	0.1453	8.8000e-004	0.1462	0.0385	8.1000e-004	0.0394		138.5353	138.5353	5.7100e-003		138.6552
Total	**0.0446**	**0.0528**	**0.6621**	**1.7400e-003**	**0.1453**	**8.8000e-004**	**0.1462**	**0.0385**	**8.1000e-004**	**0.0394**		**138.5353**	**138.5353**	**5.7100e-003**		**138.6552**

3.5 Paving - 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	1.1857	12.0981	9.0308	0.0133		0.7333	0.7333		0.6755	0.6755	0.0000	1,347.6575	1,347.6575	0.4052		1,356.1677
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1857**	**12.0981**	**9.0308**	**0.0133**		**0.7333**	**0.7333**		**0.6755**	**0.6755**	**0.0000**	**1,347.6575**	**1,347.6575**	**0.4052**		**1,356.1677**

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	0.0446	0.0528	0.6621	1.7400e-003	0.1453	8.8000e-004	0.1462	0.0385	8.1000e-004	0.0394		138.5353	138.5353	5.7100e-003		138.6552
Total	**0.0446**	**0.0528**	**0.6621**	**1.7400e-003**	**0.1453**	**8.8000e-004**	**0.1462**	**0.0385**	**8.1000e-004**	**0.0394**		**138.5353**	**138.5353**	**5.7100e-003**		**138.6552**

3.6 Architectural Coating - 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					
Archit. Coating	142.6421					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733		281.4481	281.4481	0.0297		282.0721
Total	**142.9744**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**		**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.0137	0.0162	0.2037	5.4000e-004	0.0447	2.7000e-004	0.0450	0.0119	2.5000e-004	0.0121		42.6263	42.6263	1.7600e-003		42.6631
Total	**0.0137**	**0.0162**	**0.2037**	**5.4000e-004**	**0.0447**	**2.7000e-004**	**0.0450**	**0.0119**	**2.5000e-004**	**0.0121**		**42.6263**	**42.6263**	**1.7600e-003**		**42.6631**

3.6 Architectural Coating - 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					
Archit. Coating	142.6421					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.3323	2.1850	1.8681	2.9700e-003		0.1733	0.1733		0.1733	0.1733	0.0000	281.4481	281.4481	0.0297		282.0721
Total	**142.9744**	**2.1850**	**1.8681**	**2.9700e-003**		**0.1733**	**0.1733**		**0.1733**	**0.1733**	**0.0000**	**281.4481**	**281.4481**	**0.0297**		**282.0721**

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	0.0137	0.0162	0.2037	5.4000e-004	0.0447	2.7000e-004	0.0450	0.0119	2.5000e-004	0.0121		42.6263	42.6263	1.7600e-003		42.6631
Total	**0.0137**	**0.0162**	**0.2037**	**5.4000e-004**	**0.0447**	**2.7000e-004**	**0.0450**	**0.0119**	**2.5000e-004**	**0.0121**		**42.6263**	**42.6263**	**1.7600e-003**		**42.6631**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	14.6430	21.2053	92.4062	0.2005	12.7087	0.3116	13.0203	3.3914	0.2873	3.6787		15,439.7639	15,439.7639	0.4948		15,450.1547
Unmitigated	15.1629	25.2997	106.1709	0.2576	16.6791	0.3926	17.0717	4.4509	0.3620	4.8129		19,834.7894	19,834.7894	0.6103		19,847.6047

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,374.00	1,374.00	1374.00	820,106	624,884
Fast Food Restaurant with Drive Thru	3,348.00	3,348.00	3348.00	3,523,393	2,684,667
Regional Shopping Center	1,631.35	1,631.35	1631.35	3,528,355	2,688,448
Total	6,353.35	6,353.35	6,353.35	7,871,855	5,997,999

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
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.457065	0.068684	0.178597	0.172280	0.046891	0.007460	0.012475	0.043976	0.000902	0.001056	0.006515	0.000828	0.003272

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1184	1.0762	0.9040	6.4600e-003		0.0818	0.0818		0.0818	0.0818		1,291.4165	1,291.4165	0.0248	0.0237	1,299.2759
NaturalGas Unmitigated	0.1262	1.1471	0.9636	6.8800e-003		0.0872	0.0872		0.0872	0.0872		1,376.5177	1,376.5177	0.0264	0.0252	1,384.8949

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					
Convenience Market With Gas Pumps	44.811	4.8000e-004	4.3900e-003	3.6900e-003	3.0000e-005		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004		5.2719	5.2719	1.0000e-004	1.0000e-004	5.3040
Fast Food Restaurant with Drive Thru	11404.5	0.1230	1.1181	0.9392	6.7100e-003		0.0850	0.0850		0.0850	0.0850		1,341.7083	1,341.7083	0.0257	0.0246	1,349.8737
Regional Shopping Center	251.068	2.7100e-003	0.0246	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003		29.5375	29.5375	5.7000e-004	5.4000e-004	29.7172
Total		**0.1262**	**1.1471**	**0.9636**	**6.8900e-003**		**0.0872**	**0.0872**		**0.0872**	**0.0872**		**1,376.5177**	**1,376.5177**	**0.0264**	**0.0252**	**1,384.8949**

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					
Fast Food Restaurant with Drive Thru	10.7327	0.1157	1.0522	0.8839	6.3100e-003		0.0800	0.0800		0.0800	0.0800		1,262.6688	1,262.6688	0.0242	0.0232	1,270.3532
Regional Shopping Center	0.207348	2.2400e-003	0.0203	0.0171	1.2000e-004		1.5400e-003	1.5400e-003		1.5400e-003	1.5400e-003		24.3939	24.3939	4.7000e-004	4.5000e-004	24.5423
Convenience Market With Gas Pumps	0.0370077	4.0000e-004	3.6300e-003	3.0500e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004		4.3538	4.3538	8.0000e-005	8.0000e-005	4.3803
Total		**0.1184**	**1.0762**	**0.9040**	**6.4500e-003**		**0.0818**	**0.0818**		**0.0818**	**0.0818**		**1,291.4165**	**1,291.4165**	**0.0248**	**0.0237**	**1,299.2759**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6102	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172
Unmitigated	1.6102	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172

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	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2187					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.2000e-004	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172
Total	**1.6102**	**7.0000e-005**	**7.6600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0163**	**0.0163**	**4.0000e-005**		**0.0172**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.2187					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	7.2000e-004	7.0000e-005	7.6600e-003	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005		0.0163	0.0163	4.0000e-005		0.0172
Total	**1.6102**	**7.0000e-005**	**7.6600e-003**	**0.0000**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**		**0.0163**	**0.0163**	**4.0000e-005**		**0.0172**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

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

10.0 Vegetation

Zanderson Plaza - Phases I and II Operation BAU

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Fast Food Restaurant with Drive Thru	15.00	1000sqft	0.34	15,000.00	0
Convenience Market With Gas Pumps	20.00	Pump	0.06	7,050.00	0
Regional Shopping Center	39.50	1000sqft	0.91	39,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.4	**Precipitation Freq (Days)**	28
Climate Zone	10			**Operational Year**	2020
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 - Uses based on trip generation memorandum provided by Kunzman and Associates, Inc. (September, 2016)
Square footage based on information provided by applicant for fast food restaurant, gasoline/service station and regional shopping center

Construction Phase - Construction duration estimated based on 12 month construction period begining January 1, 2019.

Grading - Total site is 8.4 acres. A total of 4.4 acres assumed to be developed in Phase I.

Vehicle Trips - Trip generation rates for each use was reduced by 60% to account for internal capture and pass-by trip reduction as presented in the Traffic Impact Assessment

Construction Off-road Equipment Mitigation -

Mobile Land Use Mitigation -

Mobile Commute Mitigation - Scenario assumed no measures to reduce VMT

Area Mitigation -

Energy Mitigation -

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblLandUse	LandUseSquareFeet	2,823.50	7,050.00
tblProjectCharacteristics	OperationalYear	2014	2020
tblVehicleTrips	ST_TR	204.47	68.70
tblVehicleTrips	ST_TR	722.03	223.20
tblVehicleTrips	ST_TR	49.97	41.30
tblVehicleTrips	SU_TR	166.88	68.70
tblVehicleTrips	SU_TR	542.72	223.20
tblVehicleTrips	SU_TR	25.24	41.30
tblVehicleTrips	WD_TR	542.60	68.70
tblVehicleTrips	WD_TR	496.12	223.20
tblVehicleTrips	WD_TR	42.94	41.30

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.0365	2.1356	1.7249	2.8100e-003	0.0461	0.1322	0.1783	0.0162	0.1271	0.1434	0.0000	234.6919	234.6919	0.0430	0.0000	235.5946
Total	**1.0365**	**2.1356**	**1.7249**	**2.8100e-003**	**0.0461**	**0.1322**	**0.1783**	**0.0162**	**0.1271**	**0.1434**	**0.0000**	**234.6919**	**234.6919**	**0.0430**	**0.0000**	**235.5946**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	1.0365	2.1356	1.7249	2.8100e-003	0.0366	0.1322	0.1687	0.0113	0.1271	0.1385	0.0000	234.6917	234.6917	0.0430	0.0000	235.5944
Total	**1.0365**	**2.1356**	**1.7249**	**2.8100e-003**	**0.0366**	**0.1322**	**0.1687**	**0.0113**	**0.1271**	**0.1385**	**0.0000**	**234.6917**	**234.6917**	**0.0430**	**0.0000**	**235.5944**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**20.67**	**0.00**	**5.35**	**30.13**	**0.00**	**3.40**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2938	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003
Energy	0.0230	0.2094	0.1759	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	661.4331	661.4331	0.0243	8.3000e-003	664.5166
Mobile	2.5439	4.8564	20.3982	0.0443	2.9857	0.0716	3.0573	0.7978	0.0660	0.8638	0.0000	3,101.6082	3,101.6082	0.1008	0.0000	3,103.7251
Waste						0.0000	0.0000		0.0000	0.0000	43.4928	0.0000	43.4928	2.5704	0.0000	97.4703
Water						0.0000	0.0000		0.0000	0.0000	2.4391	35.6798	38.1189	0.2522	6.2500e-003	45.3530
Total	**2.8608**	**5.0657**	**20.5750**	**0.0455**	**2.9857**	**0.0875**	**3.0732**	**0.7978**	**0.0819**	**0.8798**	**45.9319**	**3,798.7228**	**3,844.6547**	**2.9476**	**0.0146**	**3,911.0669**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2938	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003
Energy	0.0216	0.1964	0.1650	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	598.5492	598.5492	0.0218	7.5800e-003	601.3561
Mobile	2.4523	4.0573	18.2025	0.0345	2.2750	0.0569	2.3318	0.6079	0.0524	0.6604	0.0000	2,416.1146	2,416.1146	0.0818	0.0000	2,417.8317
Waste						0.0000	0.0000		0.0000	0.0000	21.7464	0.0000	21.7464	1.2852	0.0000	48.7351
Water						0.0000	0.0000		0.0000	0.0000	1.9512	29.5214	31.4727	0.2017	5.0100e-003	37.2607
Total	**2.7678**	**4.2537**	**18.3685**	**0.0357**	**2.2750**	**0.0718**	**2.3468**	**0.6079**	**0.0674**	**0.6753**	**23.6977**	**3,044.1871**	**3,067.8848**	**1.5905**	**0.0126**	**3,105.1856**

	ROG	NOx	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	**3.25**	**16.03**	**10.72**	**21.66**	**23.80**	**17.95**	**23.64**	**23.80**	**17.76**	**23.24**	**48.41**	**19.86**	**20.20**	**46.04**	**13.47**	**20.61**

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	1/1/2017	1/3/2017	5	2	
2	Grading	Grading	1/4/2017	1/9/2017	5	4	
3	Building Construction	Building Construction	1/10/2017	10/16/2017	5	200	
4	Paving	Paving	10/17/2017	10/30/2017	5	10	
5	Architectural Coating	Architectural Coating	10/31/2017	11/13/2017	5	10	

Acres of Grading (Site Preparation Phase): 1

Acres of Grading (Grading Phase): 1.5

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 92,325; Non-Residential Outdoor: 30,775 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	174	0.41
Site Preparation	Rubber Tired Dozers	1	7.00	255	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Graders	1	6.00	174	0.41
Grading	Rubber Tired Dozers	1	6.00	255	0.40
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Cranes	1	6.00	226	0.29
Building Construction	Forklifts	1	6.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	6.00	9	0.56
Paving	Pavers	1	6.00	125	0.42
Paving	Paving Equipment	1	8.00	130	0.36
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	7	21.00	10.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	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 - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.8000e-003	0.0000	5.8000e-003	2.9500e-003	0.0000	2.9500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3100e-003	0.0242	0.0159	2.0000e-005		1.3100e-003	1.3100e-003		1.2000e-003	1.2000e-003	0.0000	1.5895	1.5895	4.9000e-004	0.0000	1.5997
Total	**2.3100e-003**	**0.0242**	**0.0159**	**2.0000e-005**	**5.8000e-003**	**1.3100e-003**	**7.1100e-003**	**2.9500e-003**	**1.2000e-003**	**4.1500e-003**	**0.0000**	**1.5895**	**1.5895**	**4.9000e-004**	**0.0000**	**1.5997**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	4.0000e-005	3.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0716	0.0716	0.0000	0.0000	0.0717
Total	**2.0000e-005**	**4.0000e-005**	**3.6000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0716**	**0.0716**	**0.0000**	**0.0000**	**0.0717**

3.2 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust					2.2600e-003	0.0000	2.2600e-003	1.1500e-003	0.0000	1.1500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3100e-003	0.0242	0.0159	2.0000e-005		1.3100e-003	1.3100e-003		1.2000e-003	1.2000e-003	0.0000	1.5895	1.5895	4.9000e-004	0.0000	1.5997
Total	**2.3100e-003**	**0.0242**	**0.0159**	**2.0000e-005**	**2.2600e-003**	**1.3100e-003**	**3.5700e-003**	**1.1500e-003**	**1.2000e-003**	**2.3500e-003**	**0.0000**	**1.5895**	**1.5895**	**4.9000e-004**	**0.0000**	**1.5997**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	4.0000e-005	3.6000e-004	0.0000	9.0000e-005	0.0000	9.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0716	0.0716	0.0000	0.0000	0.0717
Total	**2.0000e-005**	**4.0000e-005**	**3.6000e-004**	**0.0000**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**2.0000e-005**	**0.0000**	**2.0000e-005**	**0.0000**	**0.0716**	**0.0716**	**0.0000**	**0.0000**	**0.0717**

3.3 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.8300e-003	0.0000	9.8300e-003	5.0500e-003	0.0000	5.0500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7700e-003	0.0396	0.0264	3.0000e-005		2.1300e-003	2.1300e-003		1.9600e-003	1.9600e-003	0.0000	2.6112	2.6112	8.0000e-004	0.0000	2.6280
Total	**3.7700e-003**	**0.0396**	**0.0264**	**3.0000e-005**	**9.8300e-003**	**2.1300e-003**	**0.0120**	**5.0500e-003**	**1.9600e-003**	**7.0100e-003**	**0.0000**	**2.6112**	**2.6112**	**8.0000e-004**	**0.0000**	**2.6280**

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	5.0000e-005	7.0000e-005	7.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1433	0.1433	1.0000e-005	0.0000	0.1434
Total	**5.0000e-005**	**7.0000e-005**	**7.3000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1433**	**0.1433**	**1.0000e-005**	**0.0000**	**0.1434**

3.3 Grading - 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	tons/yr										MT/yr					
Fugitive Dust					3.8300e-003	0.0000	3.8300e-003	1.9700e-003	0.0000	1.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7700e-003	0.0396	0.0264	3.0000e-005		2.1300e-003	2.1300e-003		1.9600e-003	1.9600e-003	0.0000	2.6112	2.6112	8.0000e-004	0.0000	2.6280
Total	**3.7700e-003**	**0.0396**	**0.0264**	**3.0000e-005**	**3.8300e-003**	**2.1300e-003**	**5.9600e-003**	**1.9700e-003**	**1.9600e-003**	**3.9300e-003**	**0.0000**	**2.6112**	**2.6112**	**8.0000e-004**	**0.0000**	**2.6280**

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	5.0000e-005	7.0000e-005	7.3000e-004	0.0000	1.8000e-004	0.0000	1.8000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1433	0.1433	1.0000e-005	0.0000	0.1434
Total	**5.0000e-005**	**7.0000e-005**	**7.3000e-004**	**0.0000**	**1.8000e-004**	**0.0000**	**1.8000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1433**	**0.1433**	**1.0000e-005**	**0.0000**	**0.1434**

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	0.2955	1.9109	1.4311	2.2000e-003		0.1226	0.1226		0.1182	0.1182	0.0000	184.5473	184.5473	0.0387	0.0000	185.3605
Total	**0.2955**	**1.9109**	**1.4311**	**2.2000e-003**		**0.1226**	**0.1226**		**0.1182**	**0.1182**	**0.0000**	**184.5473**	**184.5473**	**0.0387**	**0.0000**	**185.3605**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3900e-003	0.0795	0.0969	2.1000e-004	6.2000e-003	1.4600e-003	7.6700e-003	1.7800e-003	1.3500e-003	3.1200e-003	0.0000	18.7747	18.7747	1.2000e-004	0.0000	18.7772
Worker	6.4400e-003	9.4600e-003	0.0952	2.6000e-004	0.0231	1.4000e-004	0.0232	6.1300e-003	1.3000e-004	6.2600e-003	0.0000	18.8037	18.8037	8.4000e-004	0.0000	18.8213
Total	**0.0138**	**0.0890**	**0.1921**	**4.7000e-004**	**0.0293**	**1.6000e-003**	**0.0309**	**7.9100e-003**	**1.4800e-003**	**9.3800e-003**	**0.0000**	**37.5784**	**37.5784**	**9.6000e-004**	**0.0000**	**37.5985**

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	tons/yr										MT/yr					
Off-Road	0.2955	1.9109	1.4311	2.2000e-003		0.1226	0.1226		0.1182	0.1182	0.0000	184.5471	184.5471	0.0387	0.0000	185.3603
Total	**0.2955**	**1.9109**	**1.4311**	**2.2000e-003**		**0.1226**	**0.1226**		**0.1182**	**0.1182**	**0.0000**	**184.5471**	**184.5471**	**0.0387**	**0.0000**	**185.3603**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.3900e-003	0.0795	0.0969	2.1000e-004	6.2000e-003	1.4600e-003	7.6700e-003	1.7800e-003	1.3500e-003	3.1200e-003	0.0000	18.7747	18.7747	1.2000e-004	0.0000	18.7772
Worker	6.4400e-003	9.4600e-003	0.0952	2.6000e-004	0.0231	1.4000e-004	0.0232	6.1300e-003	1.3000e-004	6.2600e-003	0.0000	18.8037	18.8037	8.4000e-004	0.0000	18.8213
Total	**0.0138**	**0.0890**	**0.1921**	**4.7000e-004**	**0.0293**	**1.6000e-003**	**0.0309**	**7.9100e-003**	**1.4800e-003**	**9.3800e-003**	**0.0000**	**37.5784**	**37.5784**	**9.6000e-004**	**0.0000**	**37.5985**

3.5 Paving - 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	5.9300e-003	0.0605	0.0452	7.0000e-005		3.6700e-003	3.6700e-003		3.3800e-003	3.3800e-003	0.0000	6.1129	6.1129	1.8400e-003	0.0000	6.1515
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9300e-003**	**0.0605**	**0.0452**	**7.0000e-005**		**3.6700e-003**	**3.6700e-003**		**3.3800e-003**	**3.3800e-003**	**0.0000**	**6.1129**	**6.1129**	**1.8400e-003**	**0.0000**	**6.1515**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5820	0.5820	3.0000e-005	0.0000	0.5826
Total	**2.0000e-004**	**2.9000e-004**	**2.9500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5820**	**0.5820**	**3.0000e-005**	**0.0000**	**0.5826**

3.5 Paving - 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	tons/yr										MT/yr					
Off-Road	5.9300e-003	0.0605	0.0452	7.0000e-005		3.6700e-003	3.6700e-003		3.3800e-003	3.3800e-003	0.0000	6.1129	6.1129	1.8400e-003	0.0000	6.1515
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.9300e-003**	**0.0605**	**0.0452**	**7.0000e-005**		**3.6700e-003**	**3.6700e-003**		**3.3800e-003**	**3.3800e-003**	**0.0000**	**6.1129**	**6.1129**	**1.8400e-003**	**0.0000**	**6.1515**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.1000e-004	0.0000	7.2000e-004	1.9000e-004	0.0000	1.9000e-004	0.0000	0.5820	0.5820	3.0000e-005	0.0000	0.5826
Total	**2.0000e-004**	**2.9000e-004**	**2.9500e-003**	**1.0000e-005**	**7.1000e-004**	**0.0000**	**7.2000e-004**	**1.9000e-004**	**0.0000**	**1.9000e-004**	**0.0000**	**0.5820**	**0.5820**	**3.0000e-005**	**0.0000**	**0.5826**

3.6 Architectural Coating - 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					
Archit. Coating	0.7132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.7149**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	9.0000e-005	9.1000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1791	0.1791	1.0000e-005	0.0000	0.1793
Total	**6.0000e-005**	**9.0000e-005**	**9.1000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1791**	**0.1791**	**1.0000e-005**	**0.0000**	**0.1793**

3.6 Architectural Coating - 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	tons/yr										MT/yr					
Archit. Coating	0.7132					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0109	9.3400e-003	1.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	1.2766	1.2766	1.3000e-004	0.0000	1.2795
Total	**0.7149**	**0.0109**	**9.3400e-003**	**1.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.7000e-004**	**8.7000e-004**	**0.0000**	**1.2766**	**1.2766**	**1.3000e-004**	**0.0000**	**1.2795**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	9.0000e-005	9.1000e-004	0.0000	2.2000e-004	0.0000	2.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.1791	0.1791	1.0000e-005	0.0000	0.1793
Total	**6.0000e-005**	**9.0000e-005**	**9.1000e-004**	**0.0000**	**2.2000e-004**	**0.0000**	**2.2000e-004**	**6.0000e-005**	**0.0000**	**6.0000e-005**	**0.0000**	**0.1791**	**0.1791**	**1.0000e-005**	**0.0000**	**0.1793**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Increase Density

Increase Diversity

Improve Walkability Design

Increase Transit Accessibility

Improve Pedestrian Network

Provide Traffic Calming Measures

	ROG	NOx	CO	SO2	Fugitive 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	2.4523	4.0573	18.2025	0.0345	2.2750	0.0569	2.3318	0.6079	0.0524	0.6604	0.0000	2,416.1146	2,416.1146	0.0818	0.0000	2,417.8317
Unmitigated	2.5439	4.8564	20.3982	0.0443	2.9857	0.0716	3.0573	0.7978	0.0660	0.8638	0.0000	3,101.6082	3,101.6082	0.1008	0.0000	3,103.7251

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	1,374.00	1,374.00	1374.00	820,106	624,884
Fast Food Restaurant with Drive Thru	3,348.00	3,348.00	3348.00	3,523,393	2,684,667
Regional Shopping Center	1,631.35	1,631.35	1631.35	3,528,355	2,688,448
Total	6,353.35	6,353.35	6,353.35	7,871,855	5,997,999

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
Convenience Market With Gas	16.60	8.40	6.90	0.80	80.20	19.00	14	21	65
Fast Food Restaurant with Drive	16.60	8.40	6.90	2.20	78.80	19.00	29	21	50
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.457065	0.068684	0.178597	0.172280	0.046891	0.007460	0.012475	0.043976	0.000902	0.001056	0.006515	0.000828	0.003272

5.0 Energy Detail

4.4 Fleet Mix

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive 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	384.7408	384.7408	0.0177	3.6600e-003	386.2464
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	433.5351	433.5351	0.0199	4.1200e-003	435.2318
NaturalGas Mitigated	0.0216	0.1964	0.1650	1.1800e-003		0.0149	0.0149		0.0149	0.0149	0.0000	213.8085	213.8085	4.1000e-003	3.9200e-003	215.1097
NaturalGas Unmitigated	0.0230	0.2094	0.1759	1.2600e-003		0.0159	0.0159		0.0159	0.0159	0.0000	227.8979	227.8979	4.3700e-003	4.1800e-003	229.2849

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					
Convenience Market With Gas Pumps	16356	9.0000e-005	8.0000e-004	6.7000e-004	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.8728	0.8728	2.0000e-005	2.0000e-005	0.8781
Fast Food Restaurant with Drive Thru	4.16265e+006	0.0225	0.2041	0.1714	1.2200e-003		0.0155	0.0155		0.0155	0.0155	0.0000	222.1349	222.1349	4.2600e-003	4.0700e-003	223.4867
Regional Shopping Center	91640	4.9000e-004	4.4900e-003	3.7700e-003	3.0000e-005		3.4000e-004	3.4000e-004		3.4000e-004	3.4000e-004	0.0000	4.8903	4.8903	9.0000e-005	9.0000e-005	4.9200
Total		**0.0230**	**0.2093**	**0.1758**	**1.2500e-003**		**0.0159**	**0.0159**		**0.0159**	**0.0159**	**0.0000**	**227.8979**	**227.8979**	**4.3700e-003**	**4.1800e-003**	**229.2849**

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					
Convenience Market With Gas Pumps	13507.8	7.0000e-005	6.6000e-004	5.6000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7208	0.7208	1.0000e-005	1.0000e-005	0.7252
Fast Food Restaurant with Drive Thru	3.91743e+006	0.0211	0.1920	0.1613	1.1500e-003		0.0146	0.0146		0.0146	0.0146	0.0000	209.0490	209.0490	4.0100e-003	3.8300e-003	210.3212
Regional Shopping Center	75682	4.1000e-004	3.7100e-003	3.1200e-003	2.0000e-005		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	4.0387	4.0387	8.0000e-005	7.0000e-005	4.0633
Total		**0.0216**	**0.1964**	**0.1650**	**1.1700e-003**		**0.0149**	**0.0149**		**0.0149**	**0.0149**	**0.0000**	**213.8085**	**213.8085**	**4.1000e-003**	**3.9100e-003**	**215.1097**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	110403	31.5937	1.4500e-003	3.0000e-004	31.7173
Fast Food Restaurant with Drive Thru	786000	224.9272	0.0103	2.1400e-003	225.8074
Regional Shopping Center	618570	177.0143	8.1400e-003	1.6800e-003	177.7070
Total		**433.5351**	**0.0199**	**4.1200e-003**	**435.2318**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	94448.9	27.0281	1.2400e-003	2.6000e-004	27.1339
Fast Food Restaurant with Drive Thru	720833	206.2784	9.4800e-003	1.9600e-003	207.0857
Regional Shopping Center	529182	151.4342	6.9600e-003	1.4400e-003	152.0269
Total		**384.7407**	**0.0177**	**3.6600e-003**	**386.2464**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2938	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003
Unmitigated	0.2938	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003
Total	**0.2938**	**1.0000e-005**	**9.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8500e-003**	**1.8500e-003**	**0.0000**	**0.0000**	**1.9500e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2224					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	9.0000e-005	1.0000e-005	9.6000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.8500e-003	1.8500e-003	0.0000	0.0000	1.9500e-003
Total	**0.2938**	**1.0000e-005**	**9.6000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.8500e-003**	**1.8500e-003**	**0.0000**	**0.0000**	**1.9500e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	31.4727	0.2017	5.0100e-003	37.2607
Unmitigated	38.1189	0.2522	6.2500e-003	45.3530

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.209144 / 0.128185	1.2532	6.8700e-003	1.7000e-004	1.4508
Fast Food Restaurant with Drive Thru	4.55301 / 0.290617	19.3337	0.1492	3.6700e-003	23.6053
Regional Shopping Center	2.92586 / 1.79327	17.5319	0.0961	2.4100e-003	20.2969
Total		**38.1189**	**0.2522**	**6.2500e-003**	**45.3530**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Convenience Market With Gas Pumps	0.167315 / 0.120366	1.0592	5.5000e-003	1.4000e-004	1.2175
Fast Food Restaurant with Drive Thru	3.6424 / 0.27289	15.5954	0.1193	2.9400e-003	19.0113
Regional Shopping Center	2.34069 / 1.68388	14.8180	0.0769	1.9300e-003	17.0319
Total		**31.4727**	**0.2017**	**5.0100e-003**	**37.2607**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	21.7464	1.2852	0.0000	48.7351
Unmitigated	43.4928	2.5704	0.0000	97.4703

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	172.78	35.0728	2.0727	0.0000	78.6004
Regional Shopping Center	41.48	8.4201	0.4976	0.0000	18.8699
Total		**43.4929**	**2.5704**	**0.0000**	**97.4703**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant with Drive Thru	86.39	17.5364	1.0364	0.0000	39.3002
Regional Shopping Center	20.74	4.2100	0.2488	0.0000	9.4350
Total		**21.7464**	**1.2852**	**0.0000**	**48.7351**

9.0 Operational Offroad

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

10.0 Vegetation

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Zanderson Plaza

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 7,871,855

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.5545	metric tons N2O	**171.88**	metric tons CO2e
		Project Total:	***171.88***	***metric tons CO2e***

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** From URBEMIS 2007 results for mobile sources

Greenhouse Gas Emission Worksheet

N20 Mobile Emissions Zanderson Plaza

From URBEMIS 2007 Vehicle Fleet Mix Output:

Annual VMT: 5,997,999

Vehicle Type	Percent Type	CH4 Emission Factor (g/mile)*	CH4 Emission (g/mile)**	N2O Emission Factor (g/mile)*	N2O Emission (g/mile)**
Light Auto	46.0%	0.04	0.0184	0.04	0.0184
Light Truck < 3750 lbs	10.3%	0.05	0.00515	0.06	0.00618
Light Truck 3751-5750 lbs	23.2%	0.05	0.0116	0.06	0.01392
Med Truck 5751-8500 lbs	12.2%	0.12	0.01464	0.2	0.0244
Lite-Heavy Truck 8501-10,000 lbs	2.1%	0.12	0.00252	0.2	0.0042
Lite-Heavy Truck 10,001-14,000 lbs	0.5%	0.09	0.00045	0.125	0.000625
Med-Heavy Truck 14,001-33,000 lbs	1.0%	0.06	0.0006	0.05	0.0005
Heavy-Heavy Truck 33,001-60,000 lbs	2.9%	0.06	0.00174	0.05	0.00145
Other Bus	0.1%	0.06	0.00006	0.05	0.00005
Urban Bus	0.1%	0.06	0.00006	0.05	0.00005
Motorcycle	1.1%	0.09	0.00099	0.01	0.00011
School Bus	0.1%	0.06	0.00006	0.05	0.00005
Motor Home	0.4%	0.09	0.00036	0.125	0.0005
Total	**100.0%**		**0.05663**		**0.070435**

Total Emissions (metric tons) =
Emission Factor by Vehicle Mix (g/mi) x Annual VMT(mi) x 0.000001 metric tons/g

Conversion to Carbon Dioxide Equivalency (CO2e) Units based on Global Warming Potential (GWP)

CH4	21	GWP
N2O	310	GWP
1 ton (short, US) =	0.90718474	metric ton

Annual Mobile Emissions:

	Total Emissions		Total CO2e units	
N20 Emissions:	0.4225	metric tons N2O	**130.97**	metric tons CO2e
	Project Total:		***130.97 metric tons CO2e***	

References

* from Table C.4: Methane and Nitrous Oxide Emission Factors for Mobile Sources by Vehicle and Fuel Type (g/mile).
in California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.
Assume Model year 2000-present, gasoline fueled.

** Source: California Climate Action Registry General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, Version 3.1, January 2009.

*** From URBEMIS 2007 results for mobile sources