

AIR QUALITY AND GREENHOUSE GAS IMPACT ANALYSIS

**HOSKING AVENUE/SOUTH H STREET COMMERCIAL PROJECT
CITY OF BAKERSFIELD, CALIFORNIA**



February 2019

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CITY OF BAKERSFIELD, CALIFORNIA**

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February 2019

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EXECUTIVE SUMMARY

LSA was retained to prepare an air quality and greenhouse gas (GHG) impact study for the Hosking Avenue/South H Street Commercial Project (project) to be located in the City of Bakersfield (City) in Kern County, California. The project would develop various commercial uses on a 13-acre project site.

This air quality and greenhouse gas study provides a discussion of the project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the project. The City of Bakersfield relies on the guidance from the San Joaquin Valley Air Pollution Control District (SJVAPCD) in regards to the methodology and thresholds of significance for the evaluation and analysis of air quality impacts within the San Joaquin Valley Air Basin. The SJVAPCD adopted their *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) in March 2015.

Results of the analysis indicate construction emissions would not exceed the pollutant thresholds established by the SJVAPCD. Compliance with SJVAPCD Rules and Regulations during construction would reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. Standard dust suppression measures recommended by SJVAPCD have been identified.

In addition, results of the analysis indicated that pollutant emissions from project operation would not exceed the SJVAPCD thresholds. In addition, implementation of District Rule 9510, Indirect Source Review, would further reduce the project-related operational emissions.

The project is located in Kern County, which has been identified to have serpentine and ultramafic rock in its soil. However, according to the California Geological Survey, no such rock has been identified in the project vicinity. Therefore, the potential risk for naturally occurring asbestos during project construction is small and less than significant.

The potential of the project to generate substantial greenhouse gas emissions is also addressed in this study. Short-term construction and long-term operational emissions of the principal greenhouse gases, including carbon dioxide and methane, were quantified. Results of the analysis indicate the project's GHG emissions would meet the SJVAPCD's criteria for less-than-significant impacts as the project would achieve the targeted GHG Emissions Reductions 29 percent compared to Business As Usual (BAU).

This evaluation was prepared in conformance with appropriate air quality standards and GHG guidelines, using procedures and methodologies in the SJVAPCD *Guidance for Assessing and Mitigating Air Quality Impacts*, the *Metropolitan Bakersfield General Plan*, and the SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA*.

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
°C	degrees Celsius
µg/m ³	micrograms per cubic meter
AAQS	ambient air quality standards
AB	Assembly Bill
APN	Assessor's Parcel Number
APS	Alternative Planning Strategy
AQMP	Air Quality Management Plan
BAY	Business-as-Usual
Bio-CO ₂	biologically generated carbon dioxide
BPS	Best Performance Standards
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAT	Climate Action Team
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH ₄	methane
City	City of Bakersfield
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
Court	California Supreme Court
GAMAQI	Guidance for Assessing and Mitigating Air Quality Impacts
GHG	greenhouse gas
GWP	global warming potential
HFCs	hydrofluorocarbons
hr	hour
IPCC	Intergovernmental Panel on Climate Change
lbs/day	pounds per day
LOS	level of service
KernCOG	Kern Council of Governments

kWh	kilowatt hours
mg/m ³	milligrams per cubic meter
MPO	Metropolitan Planning Organization
MT/yr	metric tons per year
MT	metric ton(s)
MT CO ₂ e	metric tons of carbon dioxide equivalent
N ₂ O	nitrous oxide
NAAQS	national ambient air quality standards
NBio-CO ₂	non-biologically generated carbon dioxide
ND	no data available
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
O ₃	ozone (or smog)
OEHHA	California's Office of Environmental Health Hazard Assessment
Pb	lead
PFCs	perfluorocarbons
PM	particulate matter
PM ₁₀	particulate matter less than 10 microns in size
PM _{2.5}	particulate matter less than 2.5 microns in size
ppb	parts per billion
ppm	parts per million
project	Hosking Avenue/South H Street Commercial Project
ROG	reactive organic gas
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SF ₆	sulfur hexafluoride
SO ₂	sulfur dioxide
SO _x	sulfur oxides
State	State of California
TACs	toxic air contaminants
USEPA	United States Environmental Protection Agency
UNFCCC	United Nations Framework Convention on Climate Change
VOCs	volatile organic compounds
VMT	vehicle miles traveled

AIR QUALITY IMPACT ANALYSIS

INTRODUCTION

This air quality and greenhouse gas (GHG) analysis has been prepared to evaluate the potential air quality and climate change impacts and prescribe mitigation measures, as appropriate, for the Hosking Avenue/South H Street Commercial Project (project) in the City of Bakersfield (City) in Kern County, California. This report provides a project-specific air quality and climate change impact analysis by examining the impacts of the proposed uses on adjacent sensitive uses as well as the impacts on the proposed uses on the project site. Guidelines identified by the San Joaquin Valley Air Pollution Control District (SJVAPCD) in its *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) were implemented in this air quality impact analysis.

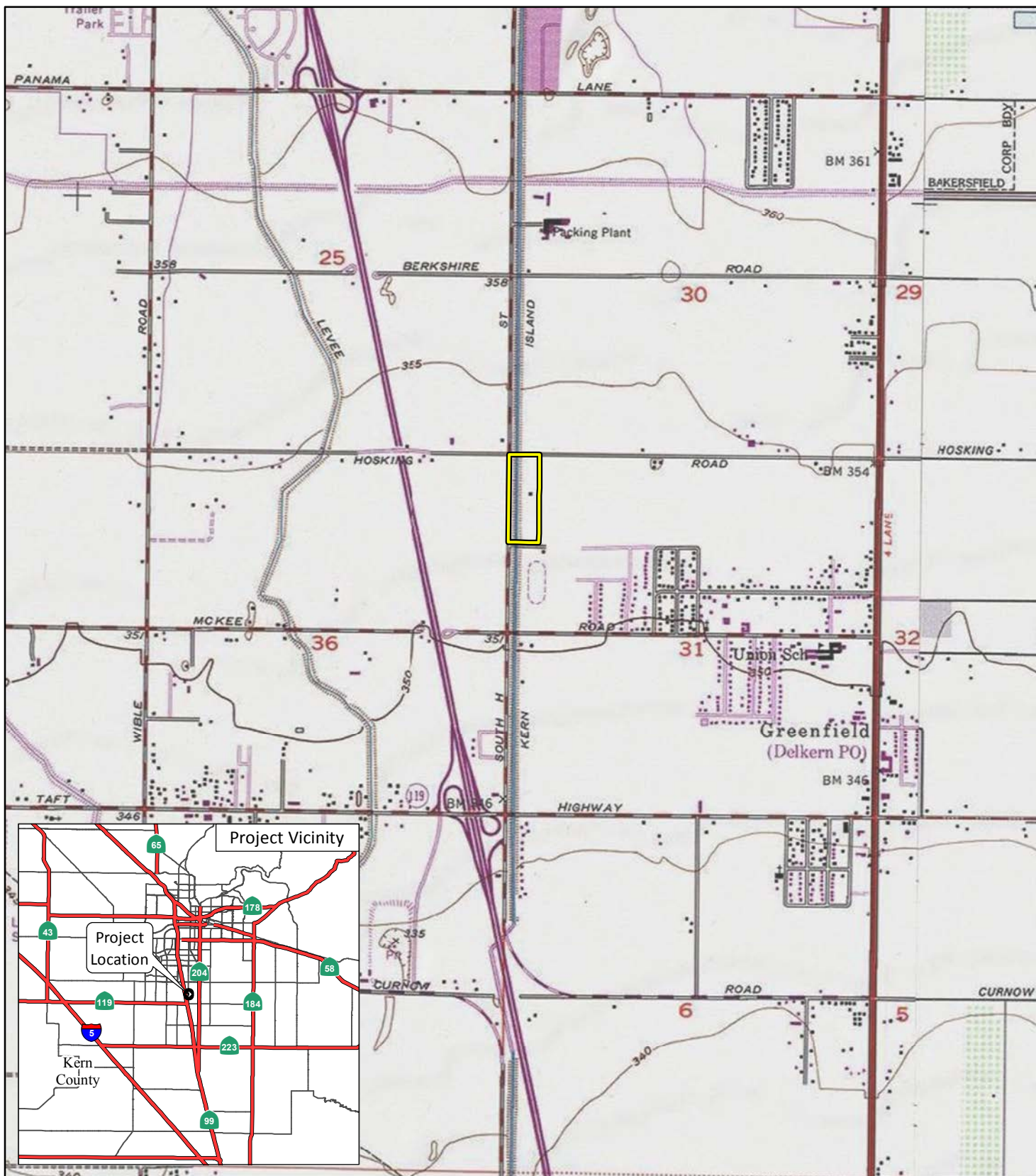
PROJECT DESCRIPTION

The vacant 13-acre project site is located at the southeast corner of Hosking Avenue and South H Street in the City of Bakersfield in Kern County (Assessor's Parcel Number [APN] 517-01-001). The project site is bound to the north by Hosking Avenue and single family residential uses to the east, single family residential uses to the south, and to the west by Kern Island Canal and South H Street. Figure 1 shows the site's regional and local context. Figure 2 depicts an aerial photograph of the project site.

The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, 6.86-acre mini-storage, and a sump. The gas station and car wash would include eight gas pumps, a tunnel carwash, and 18 vacuum stations. The proposed project would also include approximately 63 parking stalls throughout the site. A 6-foot high solid masonry wall would separate the project site from the residential land uses located east of the project site. The project site plan is shown in Figure 3. The proposed project would require a General Plan Amendment and Zone Change from single family residential (L-R, R-1) to Neighborhood Commercial Planned Commercial Development (GC, C-2 PCD).

Access to the project would be provided by two driveways, one on Hosking Avenue and one on South H Street. Access off of South H Street would be provided by a bridge over the Kern Island Canal. Regional access to the site is provided by State Route 99, which is located approximately 0.3 mile west of the project site. The project site is located in an area developed primarily with single-family residential land uses, as well as commercial, religious, and school uses. Horizon Elementary School is located approximately 0.3 mile east of the project site, and Golden Valley High School is located approximately 0.5 mile east of the project site.

Final approval of the zone change is expected by the end of July 2019 with building permits to be pulled within 90 days of zone change approval. Final construction would be completed by the end of 2020. It is anticipated that soil would likely be balanced on-site; however a small amount of soil could be imported if needed. Construction activities are expected to utilize standard construction equipment.



LSA

LEGEND

Project Location



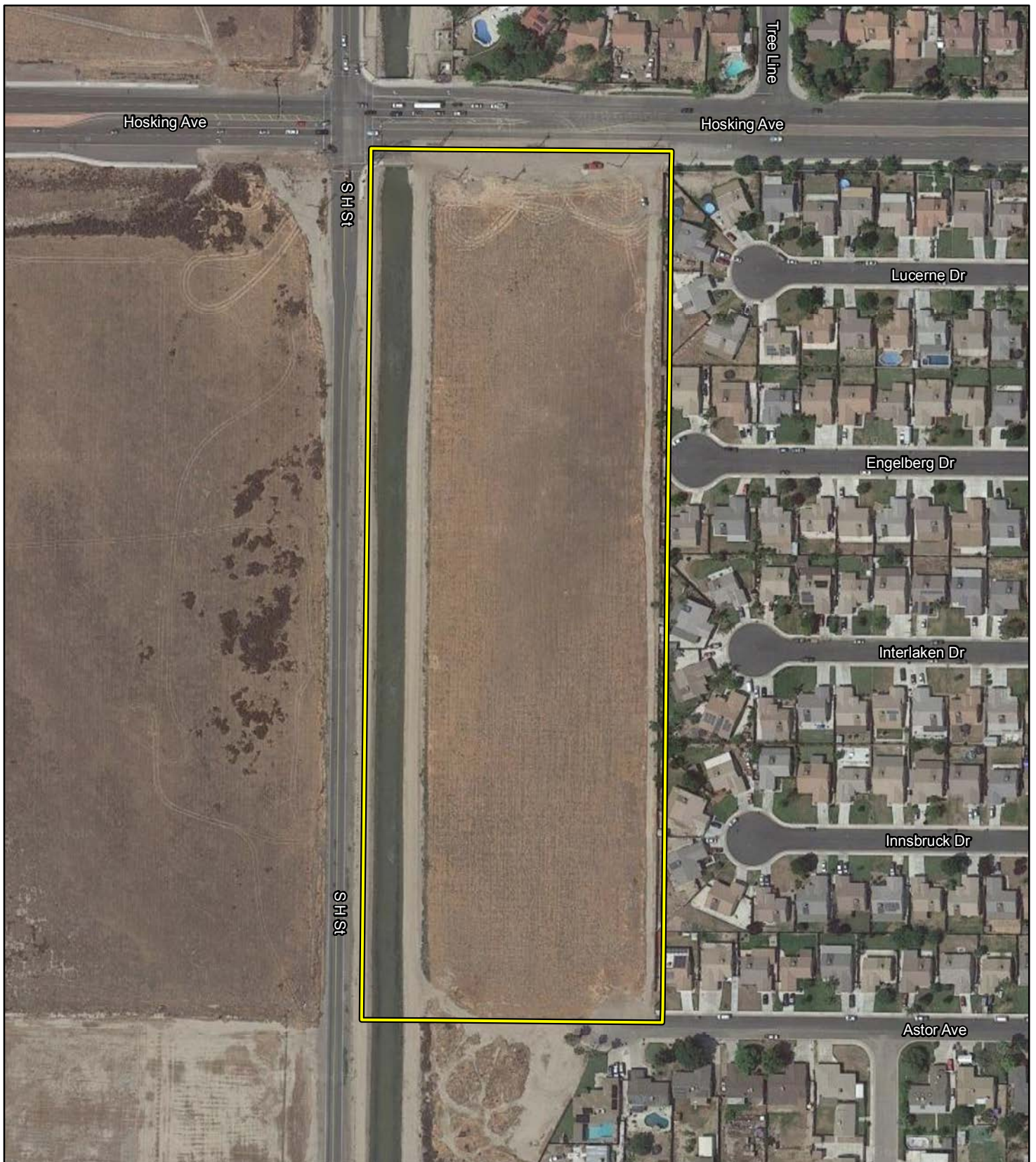
0 1000 2000
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SOURCE: USGS 7.5' Quad., Gosford, CA (1973)

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FIGURE 1

Hosking Avenue/South H Street Commercial Project
Project Location



LSA

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Project Location



0 100 200
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SOURCE: Google Aerial (~2017)

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FIGURE 2

Hosking Avenue /South H Street Commercial Project
Project Site

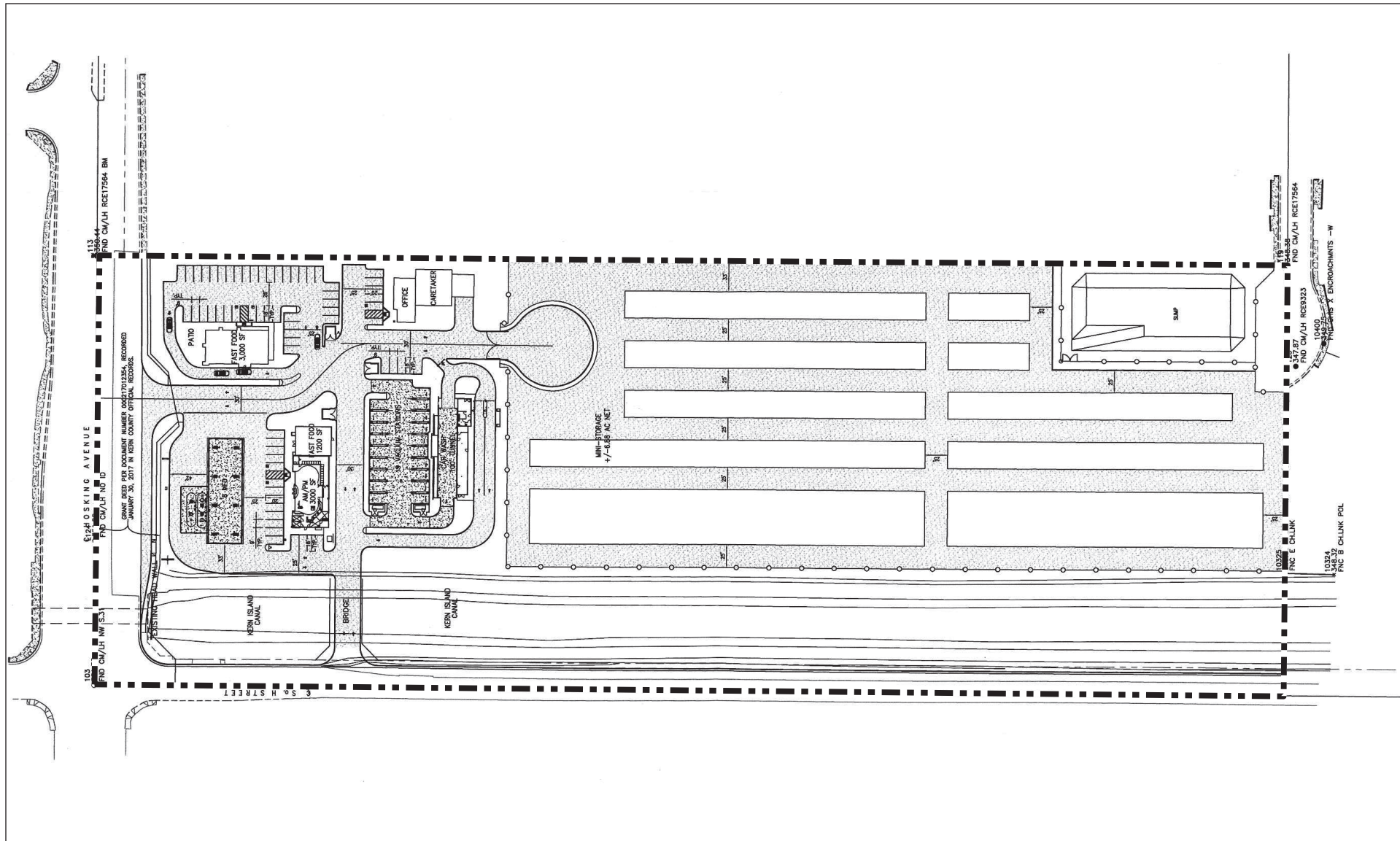
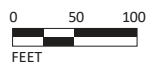


FIGURE 3

LSA



Project Site

Hosking Avenue/South H Street Commercial Project Site Plan

SOURCE: DEWALT CORPORATION, 2018.

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Existing Sensitive Land Uses in the Project Area

For the purposes of this analysis, sensitive receptors are areas of population that have an increased sensitivity to air pollution or environmental contaminants. Sensitive receptor locations include residences, schools, day care centers, hospitals, parks, and similar uses which are sensitive to air quality. Impacts on sensitive receptors are of particular concern because they are the population most vulnerable to the effects of air pollution.¹ The closest sensitive receptor locations to the project site include the single family residences located immediately east of the project site, along Lucerne Drive, Engelberg Drive, Interlaken Drive, and Innsburck Drive. Single family residences are also located approximately 55 feet east of the project site on Astor Avenue and approximately 85 feet north of the project site on Kirkwood Avenue.

AIR QUALITY BACKGROUND

This section provides background information on air pollutants and their health effects. It also provides brief information from the California Air Resources Board's *Air Quality and Land Use Handbook*² (CARB Handbook) and the supplement; *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*³, a brief description of the general health risks of toxics, and the California Environmental Quality Act (CEQA) significance criteria for project evaluation.

Air Pollutants and Health Effects

Both State and Federal governments have established health-based Ambient Air Quality Standards for six criteria air pollutants:⁴ carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Long-term exposure to elevated levels of criteria pollutants may result in adverse health effects. However, emission thresholds established by an air district are used to manage total regional emissions within an air basin based on the air basin's attainment status for criteria pollutants. These emission thresholds were established for individual projects that would contribute to regional emissions and pollutant concentrations and could adversely affect or delay the projected attainment target year for certain criteria pollutants.

Because of the conservative nature of the thresholds and the basin-wide context of individual project emissions, there is no direct correlation between a single project and localized air quality-related health effects. One individual project that generates emissions exceeding a threshold does

¹ San Joaquin Valley Air Pollution Control District, 2015. Guidance for Assessing and Mitigating Air Quality Impacts (GAMAQI). March. Website: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf, accessed January 2019.

² California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

³ California Air Resources Board, 2017. *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory*.

⁴ United States Environmental Protection Agency (USEPA), 2014. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

not necessarily result in adverse health effects for residents in the project vicinity. This condition is especially true when the criteria pollutants exceeding thresholds are those with regional effects, such as ozone precursors like nitrogen oxides (NO_x) and reactive organic gases (ROG).

Occupants of facilities such as schools, daycare centers, parks and playgrounds, hospitals, and nursing and convalescent homes are considered to be more sensitive than the general public to air pollutants because these population groups have increased susceptibility to respiratory disease. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions, compared to commercial and industrial areas, because people generally spend longer periods of time at their residences, with greater associated exposure to ambient air quality conditions. Recreational uses are also considered sensitive compared to commercial and industrial uses due to greater exposure to ambient air quality conditions associated with exercise.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. The main sources of ROG and NO_x, often referred to as ozone precursors, are combustion processes (including combustion in motor vehicle engines) and the evaporation of solvents, paints, and fuels. Automobiles are the single largest source of ozone precursors. Ozone is referred to as a regional air pollutant because its precursors are transported and diffused by wind concurrently with ozone production through the photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. CO transport is limited - it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, and hospital patients). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service (LOS) or with extremely high traffic volumes. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue, impair central nervous system function, and induce angina (chest pain) in persons with serious heart disease. Extremely high levels of CO, such as those generated when a vehicle is running in an unventilated garage, can be fatal.

Particulate Matter

Particulate matter is the term used for a mixture of solid particles and liquid droplets found in the air. Coarse particles are those that are 10 microns or less in diameter, or PM₁₀. Fine, suspended particulate matter with an aerodynamic diameter of 2.5 microns or less, or PM_{2.5}, is not readily filtered out by the lungs. Nitrates, sulfates, dust, and combustion particulates are major components of PM₁₀ and PM_{2.5}. These small particles can be directly emitted into the atmosphere as byproducts of fuel combustion; through abrasion, such as tire or brake lining wear; or through fugitive dust

(wind or mechanical erosion of soil). They can also be formed in the atmosphere through chemical reactions. Particulates may transport carcinogens and other toxic compounds that adhere to the particle surfaces and can enter the human body through the lungs.

Nitrogen Dioxide

NO₂ is a reddish brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO₂. Aside from its contribution to ozone formation, NO₂ also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition. NO₂ may be visible as a coloring component on high pollution days, especially in conjunction with high ozone levels. NO₂ decreases lung function and may reduce resistance to infection.

Sulfur Dioxide

SO₂ is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO₂ levels in the region. SO₂ irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight.

Lead

Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery factories. Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the United States Environmental Protection Agency (USEPA) established national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. The USEPA banned the use of leaded gasoline in highway vehicles in December 1995. As a result of the USEPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector and levels of lead in the air decreased dramatically.

Visibility-Reducing Particles

Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials (e.g., metals, soot, soil, dust, and salt). The Statewide standard is intended to limit the frequency and severity of visibility impairment due to regional haze. The entire San Joaquin Valley Air Basin (SJVAB) is unclassified for the State standard for visibility-reducing particles.

Valley Fever

Valley fever is a fungal infection caused by coccidioides organisms. It can cause fever, chest pain and coughing, among other signs and symptoms. The coccidioides species of fungi that cause valley fever

are commonly found in the soil in certain areas, including Kern County. These fungi can be stirred into the air by anything that disrupts the soil, such as farming, construction and wind. The fungi can then be breathed into the lungs and cause valley fever, also known as acute coccidioidomycosis. A mild case of valley fever usually goes away on its own. In more severe cases of valley fever, doctors prescribe antifungal medications that can treat the underlying infection. Valley Fever is not contagious and therefore does not spread from person to person. Most cases (approximately 60 percent) have no symptoms or only very mild flu-like symptoms and do not see a doctor. When symptoms are present, the most common are fatigue, cough, fever, profuse sweating at night, loss of appetite, chest pain, generalized muscle and joint aches particularly of the ankles and knees. There may also be a rash that resembles measles or hives but develops more often as tender red bumps on the shins or forearms.

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated by the USEPA and CARB. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. The identification, regulation, and monitoring of TACs is relatively recent compared to that for criteria pollutants.

TACs do not have ambient air quality standards, but are regulated by the USEPA, CARB, and the SJVAPCD. In 1998, the CARB identified particulate matter from diesel-fueled engines as a TAC. The CARB has completed a risk management process that identified potential cancer risks for a range of activities using diesel-fueled engines.⁵ High-volume freeways, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic (e.g., distribution centers and truck stops) were identified as posing the highest risk to adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both concentration and duration of exposure.

Unlike TACs emitted from industrial and other stationary sources noted above, most diesel particulate matter is emitted from mobile sources—primarily “off-road” sources such as construction and mining equipment, agricultural equipment, and truck-mounted refrigeration units, as well as trucks and buses traveling on freeways and local roadways.

Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to a cancer risk (a risk of approximately 500 to 700 in 1,000,000) that is greater than all other measured TACs combined.⁶ The technology for reducing diesel particulate matter emissions from heavy-duty trucks is well established, and both State and Federal agencies are moving aggressively to regulate engines and emission control systems to reduce and remediate diesel emissions. The CARB anticipates that by 2020, average statewide diesel particulate matter concentrations will decrease by 85 percent from levels in 2000 with full implementation of

⁵ CARB, 2000. Stationary Source Division and Mobile Source Control Division. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

⁶ Ibid.

the CARB's Diesel Risk Reduction Plan,⁷ meaning that the statewide health risk from diesel particulate matter is expected to decrease from 540 cancer cases in 1,000,000 to 21.5 cancer cases in 1,000,000.

Table A summarizes the sources and health effects of air pollutants discussed in this section. Table B presents a summary of State and Federal ambient air quality standards (AAQS).

Table A: Sources and Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Incomplete combustion of fuels and other carbon-containing substances, such as motor exhaust • Natural events, such as decomposition of organic matter 	<ul style="list-style-type: none"> • Reduced tolerance for exercise • Impairment of mental function • Impairment of fetal development • Death at high levels of exposure • Aggravation of some heart diseases (angina)
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • Motor vehicle exhaust • High temperature stationary combustion • Atmospheric reactions 	<ul style="list-style-type: none"> • Aggravation of respiratory illness • Reduced visibility • Reduced plant growth • Formation of acid rain
Ozone (O ₃)	<ul style="list-style-type: none"> • Atmospheric reaction of organic gases with nitrogen oxides in sunlight 	<ul style="list-style-type: none"> • Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Impairment of cardiopulmonary function • Plant leaf injury
Lead (Pb)	<ul style="list-style-type: none"> • Contaminated soil 	<ul style="list-style-type: none"> • Impairment of blood functions and nerve construction • Behavioral and hearing problems in children
Suspended Particulate Matter (PM _{2.5} and PM ₁₀)	<ul style="list-style-type: none"> • Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions 	<ul style="list-style-type: none"> • Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> • Combustion of sulfur-containing fossil fuels • Smelting of sulfur-bearing metal ores • Industrial processes 	<ul style="list-style-type: none"> • Aggravation of respiratory diseases (asthma, emphysema) • Reduced lung function • Irritation of eyes • Reduced visibility • Plant injury • Deterioration of metals, textiles, leather, finishes, coatings, etc.

Source: California Air Resources Board (2015).

⁷ Ibid.

Table B: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a		Federal Standards ^b		
		Concentration ^c	Method ^d	Primary ^{c,e}	Secondary ^{c,f}	Method ^g
Ozone (O3) ^h	1-Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)		
Respirable Particulate Matter (PM10) ⁱ	24-Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m ³		–		
Fine Particulate Matter (PM2.5) ⁱ	24-Hour	–		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	–	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		–	–	
Nitrogen Dioxide (NO2) ^j	Annual Arithmetic Mean	0.03 ppm (57 µg/m ³)	Gas Phase Chemi-luminescence	53 ppb (100 µg/m ³)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1-Hour	0.18 ppm (339 µg/m ³)		100 ppb (188 µg/m ³)	–	
Lead (Pb) ^{k,m}	30-Day Average	1.5 µg/m ³	Atomic Absorption	–	–	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m ³ (for certain areas) ^l	Same as Primary Standard	
	Rolling 3-Month Average ⁱ	–		0.15 µg/m ³		
Sulfur Dioxide (SO2) ^k	24-Hour	0.04 ppm (105 µg/m ³)	Ultraviolet Fluorescence	0.14 ppm (for certain areas)	–	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	–		–	0.5 ppm (1300 µg/m ³)	
	1-Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³) ^k	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas) ^k	–	
Visibility-Reducing Particles ⁱ	8-Hour	See footnote n	Beta Attenuation and Transmittance through Filter Tape.	No Federal Standards		
Sulfates	24-Hour	25 µg/m ³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence			
Vinyl Chloride ⁱ	24-Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography			

Table notes are provided on the following page.

^a California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

^b National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact USEPA for further clarification and current national policies.

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

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

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

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

^g Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.

^h On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

ⁱ On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

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

^k On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

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

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

^m The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

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

°C = degrees Celsius

CARB = California Air Resources Board

USEPA = United States Environmental Protection Agency

ppb = parts per billion

ppm = parts per million

mg/m³ = milligrams per cubic meter

µg/m³ = micrograms per cubic meter

Source: California Air Resources Board, 2016. <https://www.arb.ca.gov/research/aaqs/aaqs2.pdf>

Greenhouse Gases and Global Climate Change

Global climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans in recent decades. The Earth's average near-surface atmospheric temperature rose $0.6 \pm 0.2^\circ$ Celsius ($^\circ\text{C}$) or $1.1 \pm 0.4^\circ$ Fahrenheit ($^\circ\text{F}$) in the 20th century. The prevailing scientific opinion on climate change is that most of the warming observed over the last 50 years is attributable to human activities. The increased amounts of carbon dioxide (CO_2) and other GHGs are the primary causes of the human-induced component of warming. GHGs are released by the burning of fossil fuels, land clearing, agriculture, and other activities, and lead to an increase in the greenhouse effect.⁸

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 global climate change are:

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur Hexafluoride (SF_6)

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO_2 , methane, and N_2O , some gases, like HFCs, PFCs, and SF_6 are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation. For the purposes of this air quality analysis, the term "GHGs" will refer collectively to the six gases listed above only.

⁸ The temperature on Earth is regulated by a system commonly known as the "greenhouse effect." Just as the glass in a greenhouse lets heat from sunlight in and reduces the heat escaping, greenhouse gases like carbon dioxide, methane, and nitrous oxide in the atmosphere keep the Earth at a relatively even temperature. Without the greenhouse effect, the Earth would be a frozen globe; thus, although an excess of greenhouse gas results in global warming, the *naturally occurring* greenhouse effect is necessary to keep our planet at a comfortable temperature.

These gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere (“atmospheric lifetime”). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG; the definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e). Table C shows the GWP for each type of GHG. For example, sulfur hexafluoride is 22,800 times more potent at contributing to global warming than carbon dioxide.

Table C: Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-Year Time Horizon)
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-23	270	14,800
HFC-134a	14	1,430
HFC-152a	1.4	124
PFC: Tetrafluoromethane (CF ₄)	50,000	7,390
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	12,200
Sulfur Hexafluoride (SF ₆)	3,200	22,800

Source: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the IPCC* (Intergovernmental Panel on Climate Change, 2007).

The following discussion summarizes the characteristics of the six GHGs and black carbon.

Carbon Dioxide

In the atmosphere, carbon generally exists in its oxidized form, as CO₂. Natural sources of CO₂ include the respiration (breathing) of humans, animals and plants, volcanic out gassing, decomposition of organic matter and evaporation from the oceans. Human caused sources of CO₂ include the combustion of fossil fuels and wood, waste incineration, mineral production, and deforestation. Natural sources release approximately 150 billion tons of CO₂ each year, far outweighing the 7 billion tons of man-made emissions of CO₂ each year. Nevertheless, natural removal processes, such as photosynthesis by land- and ocean-dwelling plant species, cannot keep pace with this extra input of man-made CO₂, and consequently, the gas is building up in the atmosphere.

In 2016, CO₂ emissions accounted for approximately 83 percent of California's overall GHG emissions.⁹ The transportation sector accounted for California's largest portion of CO₂ emissions,

⁹ California Air Resources Board. 2018. *California Greenhouse Gas Emission Inventory – 2018 Edition*. July 11. Website: www.arb.ca.gov/cc/inventory/data/data.htm (accessed January 2019).

approximately 39 percent, with gasoline consumption making up the greatest portion of these emissions. Industrial sources were California's second largest category of GHG emissions.

Methane

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Decomposition occurring in landfills accounts for the majority of human-generated CH₄ emissions in California and in the United States as a whole. Agricultural processes such as intestinal fermentation, manure management, and rice cultivation are also significant sources of CH₄ in California. Methane accounted for approximately 9.0 percent of GHG emissions in California in 2016.¹⁰

Total annual emissions of methane in California are approximately 38.9 million tons, with manmade emissions accounting for the majority. As with CO₂, the major removal process of atmospheric methane—a chemical breakdown in the atmosphere—cannot keep pace with source emissions, and methane concentrations in the atmosphere are increasing.

Nitrous Oxide

Nitrous oxide is produced naturally by a wide variety of biological sources, particularly microbial action in soils and water. Tropical soils and oceans account for the majority of natural source emissions. Nitrous oxide is a product of the reaction that occurs between nitrogen and oxygen during fuel combustion. Both mobile and stationary combustion emit N₂O, and the quantity emitted varies according to the type of fuel, technology, and pollution control device used, as well as maintenance and operating practices. Agricultural soil management and fossil fuel combustion are the primary sources of human-generated N₂O emissions in California. Nitrous oxide emissions accounted for approximately 3 percent of GHG emissions in California in 2016.¹¹

Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride

HFCs are primarily used as substitutes for ozone-depleting substances regulated under the Montreal Protocol.¹² PFCs and SF₆ are emitted from various industrial processes, including aluminum smelting, semiconductor manufacturing, electric power transmission and distribution, and magnesium casting. There is no aluminum or magnesium production in California; however, the rapid growth in the semiconductor industry leads to greater use of PFCs. HFCs, PFCs, and SF₆ accounted for about 6 percent of man-made GHG emissions (CO₂e) in California in 2016.¹³

Black Carbon

Black carbon is the most strongly light-absorbing component of PM formed by burning fossil fuels such as coal, diesel, and biomass. Black carbon is emitted directly into the atmosphere in the form of

¹⁰ Ibid.

¹¹ Ibid.

¹² The Montreal Protocol is an international treaty that was approved on January 1, 1989, and was designated to protect the ozone layer by phasing out the production of several groups of halogenated hydrocarbons believed to be responsible for ozone depletion.

¹³ Ibid.

PM_{2.5} and is the most effective form of PM, by mass, at absorbing solar energy. Per unit of mass in the atmosphere, black carbon can absorb a million times more energy than CO₂.¹⁴ Black carbon contributes to climate change both directly, such as absorbing sunlight, and indirectly, such as affecting cloud formation. However, because black carbon is short-lived in the atmosphere, it can be difficult to quantify its effect on global-warming.

Most U.S. emissions of black carbon come from mobile sources (52 percent), particularly from diesel fueled vehicles. The other major source of black carbon is open biomass burning, including wildfires, although residential heating and industry also contribute. The CARB estimates that the annual black carbon emissions in California have decreased approximately 70 percent between 1990 and 2010 and are expected to continue to decline significantly due to controls on mobile diesel emissions.

Air Quality Regulatory Setting

The USEPA and the CARB regulate direct emissions from motor vehicles. The SJVAPCD is the regional agency primarily responsible for regulating air pollution emissions from stationary sources (e.g., factories) and indirect sources (e.g., traffic associated with new development), as well as monitoring ambient pollutant concentrations.

Federal Clean Air Act

The 1970 Federal Clean Air Act authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The Federal Clean Air Act Amendments of 1990 changed deadlines for attaining national standards as well as the remedial actions required of areas of the nation that exceed the standards. Under the Clean Air Act, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans to demonstrate how they will achieve the national standards by specified dates.

California Clean Air Act

In 1988, the California Clean Air Act (CCAA) required that all air districts in the State endeavor to achieve and maintain California ambient air quality standards (CAAQS) for carbon monoxide, ozone, sulfur dioxide and nitrogen dioxide by the earliest practical date. The California Clean Air Act provides districts with authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each nonattainment district is required to adopt a plan to achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each nonattainment pollutant or its precursors. A Clean Air Plan shows how a district would reduce emissions to achieve air quality standards. Generally, the State standards for these pollutants are more stringent than the national standards.

¹⁴ U.S. Environmental Protection Agency, 2015. *Black Carbon*. September Website: www3.epa.gov/blackcarbon/basic.html, accessed January 2019.

California Air Resources Board Handbook

The CARB has developed an Air Quality and Land Use Handbook¹⁵ which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that county and city planning agencies strongly consider proximity to these sources when finding new locations for "sensitive" land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Land use designations with air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the CARB Handbook include taking steps to avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day;
- Within 1,000 feet of a major service and maintenance rail yard;
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries;
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet); and
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The CARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The recommendations are generalized and do not consider site specific meteorology, freeway truck percentages or other factors that influence risk for a particular project site. The purpose of the land use compatibility analysis is to further examine the project site for actual health risk associated with the location of new housing on the project site.

San Joaquin Valley Air Pollution Control District

The SJVAPCD has specific air quality-related planning documents, rules, and regulations. This section summarizes the local planning documents and regulations that may be applicable to the project as administered by the SJVAPCD with CARB oversight.

¹⁵ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

Rule 2280—Portable Equipment Registration. Portable equipment used at project sites for less than six consecutive months must be registered with the SJVAPCD. The SJVAPCD will issue the registrations 30 days after receipt of the application.¹⁶

Rule 2303—Mobile Source Emission Reduction Credits. A project may qualify for SJVAPCD vehicle emission reduction credits if it meets the specific requirements of Rule 2303 for any of the following categories¹⁷:

- Low-Emission Transit Buses
- Zero-Emission Vehicles
- Retrofit Passenger Cars, Light-Duty Trucks, and Medium-Duty Vehicles
- Retrofit Heavy-Duty Vehicles

Rule 4201 and Rule 4204—Particulate Matter Concentration and Emission Rates. Rule 4201 and Rule 4202 apply to operations that emit or may emit dust, fumes, or total suspended particulate matter.¹⁸

Rule 8011—General Requirements: Fugitive Dust Emission Sources. Fugitive dust regulations are applicable to outdoor fugitive dust sources. Operations, including construction operations, must control fugitive dust emissions in accordance with SJVAPCD Regulation VIII. According to Rule 8011, the SJVAPCD requires the implementation of control measures for fugitive dust emission sources. For projects in which construction-related activities would disturb equal to or greater than 1 acre of surface area, the SJVAPCD recommends that demonstration of receipt of an SJVAPCD-approved Dust Control Plan or Construction Notification Form, before issuance of the first grading permit, be made a condition of approval.¹⁹

Rule 9510—Indirect Source Review. In December 2005, the SJVAPCD adopted the Indirect Source Rule (Rule 9510) to meet its emission reduction commitments in the PM₁₀ and O₃ Attainment Plans. Indirect Source Review regulation applies to any development project that includes at least 2,000 square feet of commercial space. This Rule requires project applicants to reduce operation emission

¹⁶ San Joaquin Valley Air Pollution Control District, 1996. Portable Equipment Registration. Amended May 16. Website: <https://www.valleyair.org/rules/currnrules/r2280.pdf>, accessed January 2019.

¹⁷ San Joaquin Valley Air Pollution Control District, 1994. Mobile Source Emission Reduction Credits. Adopted May 19. Website: <http://www.valleyair.org/rules/currnrules/r2303.pdf>, accessed January 2019.

¹⁸ San Joaquin Valley Air Pollution Control District, 1996. Rule 4202. Particulate Matter - Emission Rate. Amended December 17. Website: <https://www.valleyair.org/rules/currnrules/r4202.pdf>, accessed January 2019.

¹⁹ San Joaquin Valley Air Pollution Control District, 2004. Rule 8011. Indirect Source Review. Amended August 19. Website: <https://www.valleyair.org/rules/currnrules/r8011.pdf>, accessed January 2019.

of NO_x by 33.3 percent of the project's operational baseline and 50 percent of the project's operational PM₁₀ emissions.²⁰

Guidance for Assessing and Mitigating Air Quality Impacts. The SJVAPCD prepared the GAMAQI to assist lead agencies and project applicants in evaluating the potential air quality impacts of projects in the SJVAB. The GAMAQI provides SJVAPCD-recommended procedures for evaluating potential air quality impacts during the CEQA environmental review process. The GAMAQI provides guidance on evaluating short-term (construction) and long-term (operational) air emissions. The most recent version of the GAMAQI, adopted March 19, 2015, was used in this evaluation. It contains guidance on the following:

- Criteria and thresholds for determining whether a project may have a significant adverse air quality impact;
- Specific procedures and modeling protocols for quantifying and analyzing air quality impacts;
- Methods to mitigate air quality impacts; and
- Information for use in air quality assessments and environmental documents, including air quality, regulatory setting, climate, and topography data.

Regional Air Quality Management Plan. The SJVAPCD is responsible for formulating and implementing the Air Quality Management Plan (AQMP) for the Basin. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The SJVAPCD does not have one single AQMP for criteria pollutants, rather the District address each criteria pollutant with its own Plan. The SJVAPCD has the following AQMPs:

- 2016 Moderate Area Plan for the 2012 PM_{2.5} standard
- 2016 Plan for the 2008 8-Hour Ozone Standard
- 2013 Plan for the Revoked 1-Hour Ozone Standard
- 2007 PM₁₀ Maintenance Plan
- 2004 Revision to the California State Implementation Plan for Carbon Monoxide

The SJVAPCD's AQMPs incorporate the latest scientific and technological information and planning assumptions, including updated emission inventory methodologies for various source categories. The SJVAPCD's AQMPs included the integrated strategies and measures needed to meet the national ambient air quality standards (NAAQS), implementation of new technology measures, and demonstrations of attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual PM_{2.5} standards.

²⁰ San Joaquin Valley Air Pollution Control District, 2015. Rule 9510. Indirect Source Review. Adopted December 21, 2017, Effective March 21. Website: <https://www.valleyair.org/rules/currentrules/r9510.pdf>, accessed January 2019.

City of Bakersfield General Plan

The following are applicable policies within the Metropolitan Bakersfield General Plan (City), Chapter V: Conservation, Section E: Air Quality.²¹

- Comply with and promote San Joaquin Valley Air Pollution Control District (SJVAPCD) control measures regarding Reactive Organic Gases (ROG).
- Encourage land uses and land use practices which do not contribute significantly to air quality degradation.
- Require dust abatement measures during significant grading and construction operations.
- Consider air pollution impacts when evaluating discretionary permits for land use proposals. Considerations should include:
 - Alternative access routes to reduce traffic congestion.
 - Development phasing to match road capacities.
 - Buffers including increase vegetation to increase emission dispersion and reduce impacts of gaseous or particulate matter on sensitive uses.
- Promote the use of bicycles by providing attractive bicycle paths and requiring provision of storage facilities in commercial and industrial projects.
- Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services to minimize vehicular travel.

Provide the opportunity for the development of residential units in concert with commercial uses.

Global Climate Change Regulation

This section describes regulations related to Global Climate Change at the federal, State, and local level.

Federal Regulations

The United States has historically had a voluntary approach to reducing GHG emissions. However, on April 2, 2007, the United States Supreme Court ruled that the USEPA has the authority to regulate CO₂ emissions under the federal Clean Air Act. While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the USEPA commenced several actions in 2009 to implement a regulatory approach to global climate change.

²¹ City of Bakersfield, 2002. "Metropolitan Bakersfield General Plan." Website: <http://www.bakersfieldcity.us/civicax/filebank/blobdload.aspx?BlobID=31381>, accessed January 2019.

This includes the 2009 USEPA final rule for mandatory reporting of GHGs from large GHG emission sources in the United States. Additionally, the USEPA Administrator signed an endangerment finding action in 2009 under the Clean Air Act, finding that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to global climate change, leading to national GHG emission standards.

State Regulations

The CARB is the lead agency for implementing climate change regulations in the State. Since its formation, the CARB has worked with the public, the business sector, and local governments to find solutions to California's air pollution problems. Key efforts by the State are described below.

Assembly Bill 1493 (2002). In a response to the transportation sector's significant contribution to California's CO₂ emissions, Assembly Bill 1493 (AB 1493) was enacted on July 22, 2002. AB 1493 requires the CARB to set GHG emission standards for passenger vehicles and light duty trucks (and other vehicles whose primary use is noncommercial personal transportation in the State) manufactured in 2009 and all subsequent model years. These standards (starting in model years 2009 to 2016) were approved by the CARB in 2004, but the needed waiver of California Clean Air Act (CAA) Preemption was not granted by the USEPA until June 30, 2009. The CARB responded by amending its original regulation, now referred to as Low Emission Vehicle III, to take effect for model years starting in 2017 to 2025.

Executive Order S-3-05 (2005). Governor Arnold Schwarzenegger signed Executive Order S-3-05 on June 1, 2005, which proclaimed that California is vulnerable to the impacts of climate change. To combat those concerns, the executive order established California's GHG emissions reduction targets, which established the following goals:

- GHG emissions should be reduced to 2000 levels by 2010;
- GHG emissions should be reduced to 1990 levels by 2020; and
- GHG emissions should be reduced to 80 percent below 1990 levels by 2050.

The Secretary of the California Environmental Protection Agency (CalEPA) is required to coordinate efforts of various State agencies in order to collectively and efficiently reduce GHGs. A biannual progress report must be submitted to the Governor and State Legislature disclosing the progress made toward greenhouse emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, the coastline, and forestry, and report possible mitigation and adaptation plans to address these impacts.

The Secretary of CalEPA leads this Climate Action Team (CAT) made up of representatives from State agencies as well as numerous other boards and departments. The CAT members work to coordinate Statewide efforts to implement global warming emission reduction programs and the State's Climate Adaptation Strategy. The CAT is also responsible for reporting on the progress made toward meeting the Statewide GHG targets that were established in the executive order and further defined under AB 32, the "Global Warming Solutions Act of 2006." The first CAT Report to the Governor and

the Legislature was released in March 2006, which it laid out 46 specific emission reduction strategies for reducing GHG emissions and reaching the targets established in the Executive Order. The CAT Report to the Governor and Legislature; the most recent was released in December 2010.

Assembly Bill 32 (2006), California Global Warming Solutions Act. California's major initiative for reducing GHG emissions is AB 32, passed by the State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The CARB has established the level of GHG emissions in 1990 at 427 million metric tons CO₂e. The emissions target of 427 million metric tons requires the reduction of 169 million metric tons from the State's projected business-as-usual 2020 emissions of 596 million metric tons. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change. The Scoping Plan was approved by the CARB on December 11, 2008, and contains the main strategies California will implement to achieve the reduction of approximately 169 million metric tons of CO₂e, or approximately 30 percent, from the State's projected 2020 emission level of 596 million metric tons of CO₂e under a business-as-usual scenario (this is a reduction of 42 million metric tons CO₂e, or almost 10 percent from 2002-2004 average emissions). The Scoping Plan also includes CARB-recommended GHG reductions for each emissions sector of the State's GHG inventory. The Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 million metric tons CO₂e);
- The Low-Carbon Fuel Standard (15.0 million metric tons CO₂e);
- Energy efficiency measures in buildings and appliances and the widespread development of combined heat and power systems (26.3 million metric tons CO₂e); and
- A renewable portfolio standard for electricity production (21.3 million metric tons CO₂e).

The Scoping Plan identifies 18 emission reduction measures that address cap-and-trade programs, vehicle gas standards, energy efficiency, low carbon fuel standards, renewable energy, regional transportation-related GHG targets, vehicle efficiency measures, goods movement, solar roof programs, industrial emissions, high speed rail, green building strategies, recycling, sustainable forests, water, and air. The measures would result in a total reduction of 174 million metric tons CO₂e by 2020.

On August 24, 2011, the CARB unanimously approved both the new supplemental assessment and reapproved its Scoping Plan, which provides the overall roadmap and rule measures to carry out AB 32. The CARB also approved a more robust CEQA equivalent document supporting the supplemental analysis of the cap-and-trade program. The cap-and-trade took effect on January 1, 2012, with an enforceable compliance obligation that began January 1, 2013.

CARB has not yet determined what amount of GHG reductions it recommends from local government operations and local land use decisions; however, the Scoping Plan states that land use planning and urban growth decisions will play an important role in the State's GHG reductions

because local governments have primary authority to plan, zone, approve, and permit how land is developed to accommodate population growth and the changing needs of their jurisdictions (meanwhile, CARB is also developing an additional protocol for community emissions). CARB further acknowledges that decisions on how land is used will have large impacts on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The Scoping Plan states that the ultimate GHG reduction assignment to local government operations is to be determined. With regard to land use planning, the Scoping Plan expects an approximately 5.0 million metric tons CO₂e reduction due to implementation of Senate Bill 375 (SB 375).

In addition to reducing GHG emissions to 1990 levels by 2020, AB 32 directed the CARB and the CAT to identify a list of “discrete early action GHG reduction measures” that could be adopted and made enforceable by January 1, 2010. On January 18, 2007, Governor Schwarzenegger signed Executive Order S-1-07, further solidifying California’s dedication to reducing GHGs by setting a new Low Carbon Fuel Standard. The Executive Order sets a target to reduce the carbon intensity of California transportation fuels by at least 10 percent by 2020 and directs the CARB to consider the Low Carbon Fuel Standard as a discrete early action measure. In 2011, U.S. District Court Judge Lawrence O’Neil issued an injunction preventing implementation of the Low Carbon Fuel Standard, ruling that it is unconstitutional. In 2012, the Ninth Circuit Court of Appeal stayed the District Court’s injunction, allowing implementation of the Low Carbon Fuel Standard. The Ninth Circuit decided to uphold the Low Carbon Fuel Standard.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on GWP Refrigerants, and Landfill CH₄ Capture).²² Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code Section 38560.5. The CARB adopted additional early action measures in October 2007 that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of PFCs from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and SF₆ reductions from the non-electricity sector. The combination of early action measures is estimated to reduce Statewide GHG emissions by nearly 16 million metric tons.²³

The CARB approved the First Update to the Climate Change Scoping Plan on May 22, 2014. The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update defines CARB climate change priorities until 2020, and also sets the groundwork to reach long-term goals set forth in Executive Orders S-3-05 and B-16-2012. The Update highlights California’s progress toward meeting the “near-term” 2020 GHG emission reduction goals as defined in the initial Scoping Plan. It also evaluates how to align the State’s “longer-term” GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land

²² California Air Resources Board. 2007. *Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California Recommended for Board Consideration*. October.

²³ California Air Resources Board. 2007. “ARB approves tripling of early action measures required under AB 32” News Release 07-46. October 25.

use. CARB released a second update to the Scoping Plan, the 2017 Scoping Plan,²⁴ to reflect the 2030 target set by Executive Order B-30-15 and codified by Senate Bill 32 (SB 32).

Senate Bill 97 (2007). Senate Bill 97 (SB 97), signed by the Governor in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Sections 21083.05 and 21097), acknowledges climate change is a prominent environmental issue that requires analysis under CEQA. This bill directed the OPR to prepare, develop, and transmit to the California Resources Agency guidelines for mitigating GHG emissions or the effects of GHG emissions, as required by CEQA.

The California Natural Resources Agency adopted the amendments to the CEQA Guidelines in January 2010, which went into effect in March 2010. The amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The amendments encourage lead agencies to consider many factors in performing a CEQA analysis, but preserve the discretion granted by CEQA to lead agencies in making their own determinations based on substantial evidence. The amendments also encourage public agencies to make use of programmatic mitigation plans and programs when they perform individual project analyses.

Senate Bill 375 (2008). Signed into law on October 1, 2008, SB 375 supplements GHG reductions from new vehicle technology and fuel standards with reductions from more efficient land use patterns and improved transportation. Under the law, the CARB approved GHG reduction targets in February 2011 for California's 18 federally designated regional planning bodies, known as Metropolitan Planning Organizations (MPOs). The CARB may update the targets every 4 years and must update them every 8 years. MPOs in turn must demonstrate how their plans, policies and transportation investments meet the targets set by the CARB through Sustainable Community Strategies (SCS). The SCS are included with the Regional Transportation Plan (RTP), a report required by State law. However, if an MPO finds that their SCS will not meet the GHG reduction target, they may prepare an Alternative Planning Strategy (APS). The APS identifies the impediments to achieving the targets.

Executive Order B-30-15 (2015). Governor Jerry Brown signed Executive Order B-30-15 on April 29, 2015, which added the immediate target of:

- GHG emissions should be reduced to 40 percent below 1990 levels by 2030.

All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target, and therefore, is moving forward with the update process. The mid-term target is critical to help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed to continue reducing emissions.

²⁴ California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. November.

Senate Bill 350 (2015) Clean Energy and Pollution Reduction Act. Senate Bill 350 (SB 350), signed by Governor Jerry Brown on October 7, 2015, updates and enhances AB 32 by introducing the following set of objectives in clean energy, clean air, and pollution reduction for 2030:

- Raise California's renewable portfolio standard from 33 percent to 50 percent; and
- Increasing energy efficiency in buildings by 50 percent by the year 2030.

The 50 percent renewable energy standard will be implemented by the California Public Utilities Commission for the private utilities and by the California Energy Commission for municipal utilities. Each utility must submit a procurement plan showing it will purchase clean energy to displace other non-renewable resources. The 50 percent increase in energy efficiency in buildings must be achieved through the use of existing energy efficiency retrofit funding and regulatory tools already available to state energy agencies under existing law. The addition made by this legislation requires state energy agencies to plan for, and implement those programs in a manner that achieves the energy efficiency target.

Senate Bill 32, California Global Warming Solutions Act of 2016, and Assembly Bill 197. In summer 2016 the Legislature passed, and the Governor signed, SB 32, and Assembly Bill 197 (AB 197). SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps us on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change (IPCC) analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million CO₂e and reduce the likelihood of catastrophic impacts from climate change.

The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions. Additional direction in AB 197 meant to provide easier public access to air emissions data that are collected by CARB was posted in December 2016.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, which raises California's RPS requirements to 60 percent by 2030, with interim targets, and 100 percent by 2045. The bill also establishes a state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Executive Order B-55-18. Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that,

by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

San Joaquin Valley Air Pollution Control District In August 2008, the SJVAPCD adopted the Climate Change Action Plan (CCAP).²⁵ The CCAP directed the SJVAPCD to develop guidance to assist lead agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific GHG emissions on global climate change.

In December 2009, the SJVAPCD adopted the guidance: Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA²⁶ and the policy: District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency.²⁷ The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS),²⁸ to assess significance of project-specific GHG emissions on global climate change during the environmental review process, as required by CEQA. Projects implementing BPS in accordance with SJVAPCD's guidance would be determined to have a less than significant individual and cumulative impact on GHG emissions and would not require project specific quantification of GHG emissions.

ENVIRONMENTAL SETTING

Existing Climate and Air Quality

The project site is located near the center of the non-desert portion of Kern County, California, which is part of the SJVAB and is under the jurisdiction of the SJVAPCD.

Air quality is a function of both local climate and local sources of air pollution. The amount of a given pollutant in the atmosphere is determined by the amount of the pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

A region's topographic features have a direct correlation with air pollution flow and therefore are used to determine the boundary of air basins. The SJVAB is comprised of approximately 25,000 square miles and covers of eight counties including Fresno, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare, and the western portion of Kern. The SJVAB is defined by the Sierra Nevada mountains in the east (8,000 to 14,000 feet in elevation), the Coast Ranges in the west (averaging 3,000 feet in elevation), and the Tehachapi mountains in the south (6,000 to 8,000 feet in elevation). The valley is basically flat with a slight downward gradient to the northwest. The valley opens to the sea at the Carquinez Straits where the San Joaquin-Sacramento Delta empties into San Francisco

²⁵ San Joaquin Valley Air Pollution Control District, 2008. Climate Change Action Plan. November.

²⁶ San Joaquin Valley Air Pollution Control District, 2009. Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA. December 17.

²⁷ San Joaquin Valley Air Pollution Control District, 2009. Addressing GHG Emission Impacts for Stationary Source Projects under CEQA When Serving as the Lead Agency. December 17.

²⁸ San Joaquin Valley Air Pollution Control District, 2009. Final Staff Report Appendix J: GHG Emission Reduction Measures – Development Projects. December 17.

Bay. An aerial view of the SJVAB would simulate a “bowl” opening only to the north. These topographic features restrict air movement through and out of the basin.

Although marine air generally flows into the basin from the San Joaquin River Delta, the Coast Range hinders wind access into the SJVAB from the west, the Tehachapi Mountains prevent southerly passage of air flow, and the high Sierra Nevada range is a significant barrier to the east. These topographic features result in weak air flow which becomes blocked vertically by high barometric pressure over the SJVAB. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Most of the surrounding mountains are above the normal height of summer inversion layers (1,500 to 3,000 feet).

Local climatological effects, including wind speed and direction, temperature, inversion layers, precipitation and fog, can exacerbate the air quality in the SJVAB. Wind speed and direction play an important role in dispersion and transport of air pollutants. Wind at the surface and aloft can disperse pollution by mixing vertically and by transporting it to other locations. For example, in the summer, wind usually originates at the north end of the SJVAB and flows in a south-southeasterly direction through the SJVAB, through Tehachapi pass, into the Southeast Desert Air Basin. In the winter, wind direction is reversed and flows in a north-northwesterly direction. In addition to the seasonal wind flow, a sea breeze flows into SJVAB during the day and a land breeze flowing out of the SJVAB at night. The diversified wind flow enhances the pollutant transport capability within SJVAB.

The annual average temperature varies throughout the SJVAB, ranging from the low 40s to high 90s, measured in degrees Fahrenheit (°F). With a more pronounced valley influence, inland areas show more variability in annual minimum and maximum temperatures than coastal areas. The climatological station closest to the site is the Bakersfield (040442) AP Station. The monthly average maximum temperature recorded at this station from October 1937 to June 2016 ranged from 57.4°F in January to 98.6°F in July, with an annual average maximum of 77.8°F. The monthly average minimum temperature recorded at this station ranged from 38.5°F in January to 69.2°F in July, with an annual average minimum of 52.7°F.²⁹ These levels are still representative of the project area. January is typically the coldest month and July is typically the warmest month in this area of the SJVAB.

The majority of annual rainfall in the SJVAB occurs between November and March. Summer rainfall is minimal and is generally limited to scattered thundershowers in desert regions and slightly heavier showers near the lower portion of the Basin and along the Sierra Nevada mountains to the east. Average monthly rainfall during that period varied from 0.01 inches in July to 1.16 inches in February, with an annual total of 6.17 inches.³⁰ Patterns in monthly and yearly rainfall totals are predictable due to the recognizable differences in seasons within the valley.

The vertical dispersion of air pollutants in the SJVAB is limited by the presence of persistent temperature inversions. Because of cooling of the atmosphere, air temperature usually decreases

²⁹ Western Regional Climate Center (WRCC). Website: <https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca0442>, accessed January 2019.

³⁰ Ibid.

with altitude. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Inversions can exist at the surface, or at any height above the ground. The height of the base of the inversion is known as the “mixing height.” This is the level within which pollutants can mix vertically. Air above and below the inversion base does not mix because of the differences in air density. Semi-permanent systems of high barometric pressure fronts frequently establish themselves over the SJVAB, preventing low pressure systems that might otherwise bring rain and winds that clean the air.

Inversion layers are significant in determining ozone formation, and CO and PM₁₀ concentrations. Ozone and its precursors will mix and react to produce higher ozone concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as carbon monoxide. PM₁₀ is both directly emitted and created in the atmosphere as a chemical reaction. Concentration levels of pollutants are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth’s surface goes through a radiative process on clear nights, where heat energy is transferred from the ground to a cooler night sky. As the earth’s surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. Periods of low inversions and low wind speeds are conditions favorable to high concentrations of CO and PM₁₀. In the winter, the greatest pollution problems are CO and NO_x because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and oxides of nitrogen to form photochemical smog.

Attainment Status

The CARB is required to designate areas of the State as attainment, nonattainment or unclassified for all State standards. An *attainment* designation for an area signifies that pollutant concentrations did not violate the standard for that pollutant in that area. A *nonattainment* designation indicates that a pollutant concentration violated the standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. An *unclassified* designation signifies that data does not support either an attainment or nonattainment status. The California Clean Air Act divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA also designates areas as attainment, nonattainment, or classified. The air quality data are also used to monitor progress in attaining air quality standards. Table D provides a summary of the attainment status for the SJVAB with respect to national and State ambient air quality standards.

Table D: Attainment Status of Criteria Pollutants in the San Joaquin Valley Air Basin

Pollutant	State	Federal
O ₃ 1-hour	Nonattainment/Severe	No Federal Standard ¹
O ₃ 8-hour	Nonattainment	Extreme Nonattainment ²
PM ₁₀	Nonattainment	Attainment ³
PM _{2.5}	Nonattainment	Nonattainment ⁴
CO	Attainment/Unclassified	Attainment/Unclassified
NO ₂	Attainment	Attainment/Unclassified
SO ₂	Attainment	Attainment/Unclassified
Lead	Attainment	No Designation/Classification
All others	Attainment/Unclassified	N/A

Source: SJVAPCD, Ambient Air Quality Standards and Valley Attainment Status.

Website: <http://www.valleyair.org/aqinfo/attainment.htm>, accessed January 2019.

¹ Effective June 15, 2005, the U.S. Environmental Protection Agency (USEPA) revoked the federal 1-hour ozone standard, including associated designations and classifications. USEPA had previously classified the SJVAB as extreme nonattainment for this standard. USEPA approved the 2004 Extreme Ozone Attainment Demonstration Plan on March 8, 2010 (effective April 7, 2010). Many applicable requirements for extreme 1-hour ozone nonattainment areas continue to apply to the SJVAB.

² Though the Valley was initially classified as serious nonattainment for the 1997 8-hour ozone standard, USEPA approved Valley reclassification to extreme nonattainment in the Federal Register on May 5, 2010 (effective June 4, 2010).

³ On September 25, 2008, USEPA re-designated the San Joaquin Valley to attainment for the PM₁₀ National Ambient Air Quality Standard (NAAQS) and approved the PM₁₀ Maintenance Plan.

⁴ The Valley is designated nonattainment for the 1997 PM_{2.5} NAAQS. USEPA designated the Valley as nonattainment for the 2006 PM_{2.5} NAAQS on November 13, 2009 (effective December 14, 2009).

CO = carbon monoxide

N/A = not applicable

NO₂ = nitrogen dioxide

O₃ = ozone

PM₁₀ = particulate matter less than 10 microns in size

PM_{2.5} = particulate matter less than 2.5 microns in size

SO₂ = sulfur dioxide

Air Quality Monitoring Results

Air quality monitoring stations are located throughout the nation and maintained by the local air pollution control district and state air quality regulating agencies. Ambient air data collected at permanent monitoring stations are used by the USEPA to identify regions as attainment or nonattainment depending on whether the regions met the requirements stated in the primary NAAQS. Attainment areas are required to maintain their status through moderate, yet effective air quality maintenance plans. Nonattainment areas are imposed with additional restrictions as required by the USEPA. In addition, different classifications of attainment such as marginal, moderate, serious, severe, and extreme are used to classify each air basin in the state on a pollutant-by-pollutant basis. Different classifications have different mandated attainment dates and are used as guidelines to create air quality management strategies to improve air quality and comply with the NAAQS by the attainment date. A region is determined to be unclassified when the data collected from the air quality monitoring stations do not support a designation of attainment or nonattainment, due to lack of information, or a conclusion cannot be made with the available data.

The SJVAPCD, together with CARB, maintains ambient air quality monitoring stations in the SJVAB. The air quality monitoring station closest to the site is the Bakersfield Municipal Airport, which monitors criteria air pollutant data. The air quality trends from this station are used to represent the ambient air quality in the project area. Ambient air quality in the project area from 2015 to 2017

is shown in Table E. The final data for the ambient air quality monitored in year 2018 is not currently available. The pollutants monitored were CO, O₃, and NO₂. Air quality trends for PM_{2.5} and PM₁₀ are not available at the Municipal Airport monitoring station, and were obtained from the Bakersfield-California monitoring station. Air quality trends for SO₂ are not monitored in Kern County.

As indicated in the monitoring results, the State 1-hour O₃ standard was exceeded 23 times in 2015, 8 times in 2016, and 9 times in 2017 and the State 8-hour O₃ standard was exceeded 73 times in 2015, 66 times in 2016, and 57 times in 2017. In addition, the federal 8-hour O₃ standard was exceeded 69 times in 2015, 63 times in 2016, and 55 times in 2017. The State PM₁₀ standard was exceeded 20 times in 2015, 21 times in 2016, and 16 times in 2017. The federal PM₁₀ standard was not exceeded during the 3-year period. The federal PM_{2.5} standard was exceeded 29 times in 2015, 23 times in 2016, and 28 times in 2017. The CO and NO₂ standards were not exceeded in this area during the 3-year period.

Greenhouse Gas Emissions Inventory

An emissions inventory that identifies and quantifies the primary human-generated sources and sinks of GHGs is a well-recognized and useful tool for addressing climate change. This section summarizes the latest information on global, United States, California, and local GHG emission inventories.

Global Emissions

Worldwide emissions of GHGs in 2016 totaled approximately 26 billion metric tons of CO₂e.³¹ Global estimates are based on country inventories developed as part of the programs of the United Nations Framework Convention on Climate Change (UNFCCC).

United States Emissions

In 2015, the United States emitted about 6.6 billion metric tons of CO₂e or about 21 metric tons per year per person. The total 2015 CO₂e emissions represent a 3.5 percent increase since 1990 but a 10 percent decrease since 2005. Of the six major sectors nationwide – residential, commercial, agricultural, industry, transportation, and electricity generation – electricity generation accounts for the highest amount of GHG emissions (approximately 29 percent), with transportation second at 27 percent; these emissions are generated entirely from direct fossil fuel combustion³²

³¹ United Nations Framework Convention on Climate Change (UNFCCC). 2016. GHG data from UNFCCC. Website: <https://unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc>, accessed January 2019.

³² U.S. Environmental Protection Agency. 2017. Inventory of U.S. Greenhouse Gas Emissions and Sinks. 1990-2015. Available online at: www.epa.gov/sites/production/files/2017-02/documents/2017_complete_report.pdf, accessed January 2019.

Table E: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2015	2016	2017
Carbon Monoxide (CO)¹				
Maximum 1-hr concentration (ppm)		1.7	1.4	1.8
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		1.0	1.1	1.2
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O₃)¹				
Maximum 1-hr concentration (ppm)		0.118	0.102	0.118
Number of days exceeded:	State: > 0.09 ppm	23	8	9
Maximum 8-hr concentration (ppm)		0.106	0.093	0.101
Number of days exceeded:	State: > 0.070 ppm	73	66	57
	Federal: > 0.070 ppm	69	63	55
Coarse Particulates (PM₁₀)²				
Maximum 24-hr concentration (µg/m ³)		104.7	92.2	143.6
Number of days exceeded:	State: > 50 µg/m ³	20	21	16
	Federal: > 150 µg/m ³	0	0	0
Annual arithmetic average concentration (µg/m ³)		44	44	44
Exceeded for the year:	State: > 20 µg/m ³	Yes	Yes	Yes
Fine Particulates (PM_{2.5})²				
Maximum 24-hr concentration (µg/m ³)		111.9	66.4	101.8
Number of days exceeded:	Federal: > 35 µg/m ³	29	23	28
Annual arithmetic average concentration (µg/m ³)		17	16	16
Exceeded for the year:	State: > 12 µg/m ³	Yes	Yes	Yes
	Federal: > 15 µg/m ³	Yes	Yes	Yes
Nitrogen Dioxide (NO₂)¹				
Maximum 1-hr concentration (ppm)		0.055	0.058	0.063
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.012	0.011	0.012
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO₂)				
Maximum 24-hr concentration (ppm)		ND	ND	ND
Number of days exceeded:	State: > 0.04 ppm	ND	ND	ND
	Federal: > 0.14 ppm	ND	ND	ND
Annual arithmetic average concentration (ppm)		ND	ND	ND
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source: United States Environmental Protection Agency. 2015–2017 Air Quality Data. Website: <https://www.epa.gov/outdoor-air-quality-data>, accessed January 2019. California Air Resources Board (CARB). iADAM: Air Quality Data Statistics. Website: <http://www.arb.ca.gov/adam/welcome.html>, accessed January 2019.

¹ Data from the SJVAPCD Bakersfield – Municipal Airport monitoring site, 2000 S. Union Ave.

² Data from the CARB Bakersfield – California Avenue monitoring site, 5558 California Ave.

µg/m³ = micrograms per cubic meter

PM₁₀ = particulate matter less than 10 microns in size

hr = hour

PM_{2.5} = particulate matter less than 2.5 microns in size

ND = no data available

ppm = parts per million

O₃ = ozone

State of California Emissions

According to CARB emission inventory estimates, the State emitted approximately 429.4 million metric tons of CO₂e (million metric tons CO₂e) emissions in 2016. This is a decrease of 12 million metric tons CO₂e since 2015.³³

The CARB estimates that transportation was the source of approximately 39 percent of the State's GHG emissions in 2016, followed by industrial sources at 21 percent and electricity generation at 16 percent. The remaining sources of GHG emissions were residential and commercial activities at 9 percent, agriculture at 8 percent, high-GWP gases at 5 percent, and recycling and waste at 2 percent.³⁴

Kern County Greenhouse Gas Emissions

In 2005, Kern County generated approximately 27,045,617 metric tons CO₂e from all emissions sources.³⁵ Unlike most communities in California, Kern County's fossil fuels industry sector accounted for the largest share of emissions, representing 40 percent of emissions, while electricity consumption was the second-largest sector for emissions at 22 percent. Transportation, agriculture fugitives, and industrial processes represented smaller, but still notable, portions of the emissions profile, representing 17 percent, 7 percent, and 7 percent, respectively. Residential/commercial/industrial combustion represented 5 percent of the emissions profile. The smallest sectors, waste management and forestry land use, each represented less than 1 percent of total emissions in Kern County in 2005.³⁶

THRESHOLDS OF SIGNIFICANCE

The State *CEQA Guidelines* indicate that a project would normally have a significant adverse air quality impact if project-generated pollutant emissions would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or state ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) affecting a substantial number of people.

³³ California Air Resources Board. 2018. op. cit.

³⁴ Ibid.

³⁵ Kern County Council of Governments (KernCOG). 2012. Communitywide Greenhouse Gas Emission Inventory: 2005 Baseline Year – 2020 Forecast. May. Website: http://www.kerncog.org/wp-content/uploads/2011/09/kc_ghg_final_report_052012.pdf, accessed January 2019.

³⁶ Ibid.

The SJVAPCD has established thresholds of significance for criteria pollutant emissions generated during construction and operation of projects as shown in Table F.

**Table F: SJVAPCD Construction and Operation Thresholds of Significance
(Tons per Year)**

	CO	NO _x	ROG	SO _x	PM ₁₀	PM _{2.5}
Construction Thresholds	100	10	10	27	15	15
Operation Thresholds	100	10	10	27	15	15

Source: SJVAPCD, 2015. Guidance for Assessing and Mitigating Air Quality Impacts. March 2018.

The emissions thresholds in the SJVAPCD GAMAQI were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and would overstate an individual project's contribution to health risks.

The SJVAPCD has also established a threshold for both carcinogenic and non-carcinogenic TACs. A community is at risk, or impacts are considered significant, when individual risk exposure to carcinogenic TACs equals or exceeds 20 in one million. Carcinogenic risk is expressed as cancer cases per one million. A community is at risk, or impacts are considered significant, when individual risk exposure to non-carcinogenic TACs equals or exceeds a hazard index of 1 for both acute and chronic TACs. Non-carcinogenic hazard indices are expressed as a ratio of expected exposure levels to acceptable exposure levels.

The State *CEQA Guidelines* indicate that a project would normally have a significant adverse greenhouse gas emission impact if the project would:

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

The SJVAPCD's *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* presents a tiered approach to analyzing project significance with respect to GHG emissions. Project GHG emissions are considered less than significant if they can meet any of the following conditions, evaluated in the order presented:

- Project is exempt from CEQA requirements;
- Project complies with an approved GHG emission reduction plan or GHG mitigation program;
- Project implements Best Performance Standards (BPS); or

- Project demonstrates that specific GHG emissions would be reduced or mitigated by at least 29 percent compared to Business-as-Usual (BAU), including GHG emission reductions achieved since the 2002-2004 baseline period.

On November 20, 2015, the California Supreme Court (Court) issued its decision on the Center for Biological Diversity v. California Department of Fish and Wildlife on the Newhall Ranch project case (Newhall Ranch case). Among the findings, the Court supported the use of BAU analyses if it also substantiates the reduction a project must achieve to comply with Statewide goals. If no additional reductions are required from an individual project beyond that achieved by regulations to achieve the AB 32 target for 2020, then the amount needed to reach the AB 32 target is the reduction a project must achieve to comply with Statewide goals.

IMPACTS AND MITIGATION MEASURES

Air pollutant emissions associated with the project would occur over the short term from construction activities (e.g., fugitive dust from site preparation and grading) and emissions from equipment exhaust. Long-term regional emissions associated with the project would be related to vehicular trips and from energy consumption (e.g., electricity usage) used by future tenants of the project. The analysis of project related air impacts are described in this section.

Air Quality Impacts

This section describes the construction and operational phase emission impacts.

Consistency with Applicable Air Quality Plans

An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. To bring the San Joaquin Valley into attainment, the SJVAPCD has developed the 2013 Plan for the Revoked 1-Hour Ozone Standard (Ozone Plan), adopted on September 19, 2013.³⁷ The SJVAPCD also adopted the 2016 Plan for the 2008 8-Hour Ozone Standard in June 2016 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard.³⁸

To assure the SJVAB's continued attainment of the USEPA PM₁₀ standard, the SJVAPCD adopted the 2007 PM₁₀ Maintenance Plan in September 2007.³⁹ SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions) is designed to reduce PM₁₀ emissions generated by human activity. The SJVAPCD

³⁷ San Joaquin Valley Air Pollution Control District (SJVAPCD), 2013. *2013 Plan for the Revoked 1-Hour Ozone Standard*. September 19. Website: www.valleyair.org/Air_Quality_Plans/Ozone-OneHourPlan-2013.htm, accessed January 2019.

³⁸ San Joaquin Valley Air Pollution Control District (SJVAPCD), 2016. *2016 Plan for the 2008 8-Hour Ozone Standard*. June 16. Website: www.valleyair.org/Air_Quality_Plans/Ozone-Plan-2016.htm, accessed January 2019.

³⁹ San Joaquin Valley Air Pollution Control District (SJVAPCD), 2007. *2007 PM₁₀ Maintenance Plan and Request for Redesignation*. Available online at: www.valleyair.org/Air_Quality_Plans/docs/Maintenance%20Plan10-25-07.pdf, accessed January 2019.

adopted the 2015 Plan for the 1997 PM_{2.5} Standard in April 2015 to address the USEPA annual PM_{2.5} standard of 15 µg/m³ and 24-hour PM_{2.5} standard of 65 µg/m³.⁴⁰

CEQA requires that certain projects be analyzed for consistency with the applicable air quality plan. For a project to be consistent with SJVAPCD air quality plans, the pollutants emitted from a project should not exceed the SJVAPCD emission thresholds or cause a significant impact on air quality. In addition, emission reductions achieved through implementation of offset requirements are a major component of the SJVAPCD air quality plans. As discussed below, construction of the project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance. Implementation of SJVAPCD Regulation VIII would further reduce construction dust impacts. Operational emissions associated with the project would not exceed SJVAPCD established significance thresholds for ROG, NO_x, CO, sulfur oxides (SO_x), PM₁₀, or PM_{2.5} emissions. With implementation of Rule 9510, NO_x and PM₁₀ emissions would further be reduced. Therefore, the project would not conflict with or obstruct implementation of SJVAPCD air quality plans.

Construction Emissions

During construction, short-term degradation of air quality may occur due to the release of particulate emissions generated by grading, paving, building, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Project construction activities would include grading, paving, and building activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction. The project would be required to comply with District Regulation VIII (Fugitive PM₁₀ Prohibition) to control fugitive dust. SJVAPCD Rule 8011, General Requirements, and Rule 8021, Construction, Demolition Excavation, Extraction, and Other Earthmoving Activities, would also be applicable.

⁴⁰ San Joaquin Valley Air Pollution Control District (SJVAPCD), 2015. *2015 Plan for the 1997 PM_{2.5} Standard*. April 16. Website: www.valleyair.org/Air_Quality_Plans/PM25Plans2015.htm, accessed January 2019.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, volatile organic compounds (VOCs) and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles idle in traffic. These emissions would be temporary in nature and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the California Emissions Estimator Model, version 2016.3.2 (CalEEMod), consistent with SJVAPCD recommendations. Table G lists the tentative project construction schedule for the project based on a start date in October 2019 and a planned opening at the end of 2020. Table H lists the potential construction equipment to be used during project construction under each phase of construction. Construction-related emissions are presented in Table I. CalEEMod output sheets are included in Attachment A.

Table G: Tentative Project Construction Schedule

Phase Number	Phase Name	Phase Start Date	Phase End Date	Number of Days/Week	Number of Days
1	Site Preparation	10/7/2019	10/18/2019	5	10
2	Grading	10/19/2019	11/29/2019	5	30
3	Building Construction	11/30/2019	10/2/2020	5	220
4	Paving	10/3/2020	11/13/2020	5	30
5	Architectural Coating	11/14/2020	12/25/2020	5	30

Source: Compiled by LSA using CalEEMod defaults (January 2019).

Table H: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	3	8	247	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	2	8	97	0.37
	Scrapers	2	8	367	0.48
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Architectural Coating	Air Compressors	1	6	78	0.48
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	6	80	0.38

Source: Compiled by LSA using CalEEMod defaults (January 2019).

Table I: Project Construction Emissions

Construction Year	Total Regional Pollutant Emissions ¹ (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2019	0.1	1.4	0.9	0.0	0.2	0.1
2020	2.5	2.8	2.5	0.0	0.3	0.2
SJVAPCD Thresholds	10	10	100	27	15	15
Significant Emissions?	No	No	No	No	No	No

Source: Compiled by LSA (January 2019).

¹ All on-site and off-site emissions are presented as construction mitigation in the CalEEMod model output files.

CO = carbon monoxide

lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SJVAPCD = San Joaquin Valley Air Pollution Control District

SO_x = sulfur oxides

ROG = reactive organic gases

As shown in Table I, construction emissions associated with the project would not exceed the SJVAPCD's thresholds for ROG, NO_x, CO, SO_x, PM_{2.5}, or PM₁₀ emissions. In addition to the construction period thresholds of significance, the SJVAPCD has implemented Regulation VIII measures for dust control during construction. These control measures are intended to reduce the amount of PM₁₀ emissions during the construction period. Implementation of the following fugitive dust control measures would ensure that the project complies with Regulation VIII and further reduces the short-term construction period air quality impacts.

Fugitive Dust Control Measures: Consistent with SJVAPCD Regulation VIII (Fugitive PM₁₀ Prohibitions), the following controls are required to be included as specifications for the project and implemented at the construction site:

- All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, covered with a tarp or other suitable cover or vegetative ground cover.
- All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.
- All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
- When materials are transported off-site, all material shall be covered, or effectively wetted to limit visible dust emissions, and at least six inches of freeboard space from the top of the container shall be maintained.
- All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at the end of each workday. (The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices is expressly forbidden.)

- Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emission utilizing sufficient water or chemical stabilizer/suppressant.

As shown in Table I, the short-term construction emissions associated with the project would be well below SJVAPCD established significance thresholds. Therefore, construction of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State ambient air quality standards.

Operational Air Quality Impacts

Long-term air pollutant emission impacts are those associated with area sources and mobile sources related to the proposed project. In addition to the short-term construction emissions, the project would also generate long-term air pollutant emissions, such as those associated with changes in permanent use of the project site. These long-term emissions are primarily mobile source emissions that would result from vehicle trips associated with the proposed project. Area sources, such as landscape equipment would also result in pollutant emissions.

PM₁₀ emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM₁₀ occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes. Gasoline-powered engines have small rates of particulate matter emissions compared with diesel-powered vehicles.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand for the proposed project could include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as refrigerators or computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel source, with cleaner energy sources, like renewable energy, producing fewer emissions than conventional sources. The project would comply with the 2016 California Building Standards Code (California Code of Regulations, Title 24). Area source emissions associated with the project would include emissions from the use of architectural coatings, consumer products, and landscaping equipment.

Emission estimates for operation of the project were calculated using CalEEMod. Model results are shown in Table J. Trip generation rates for the project were based on the project's trip generation estimates, as identified in the Traffic Impact Assessment.⁴¹ Based on the Traffic Impact Assessment, the proposed project would generate approximately 2,385 net new average daily trips, with approximately 188 trips occurring in the AM peak hour and approximately 169 trips occurring in the PM peak hour.

⁴¹ Dewalt Corporation, 2019. *General Plan Amendment & Zone Change Proposed Commercial Development SE Corner of Hosking Ave / S H St Traffic Impact Assessment*. January 28.

The primary emissions associated with the project are regional in nature, meaning that air pollutants are rapidly dispersed on release or, in the case of vehicle emissions associated with the project; emissions are released in other areas of the Air Basin. The annual emissions associated with project operational trip generation, energy, and area sources are identified in Table J for ROG, NO_x, CO, sulfur oxides (SO_x), PM₁₀, and PM_{2.5}. CalEEMod output sheets are included in Attachment A.

Table J: Project Operational Emissions

Source	Pollutant Emissions (tons/year)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Emission Source						
Area	1.4	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.4	0.3	0.0	0.0	0.0
Mobile	0.7	7.4	5.6	0.0	1.1	0.3
Total Project Emissions	2.1	7.8	5.9	0.0	1.1	0.3
SJVAPCD Thresholds	10	10	100	27	15	15
Significant?	No	No	No	No	No	No

Source: Compiled by LSA (January 2019).

CO = carbon monoxide

lbs/day = pounds per day

NO_x = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

SJVAPCD = San Joaquin Valley Air Pollution Control District

SO_x = sulfur oxides

ROG = reactive organic gases

The results shown in Table J indicate the project would not exceed the significance criteria for annual ROG, NO_x, CO, SO_x, PM₁₀, or PM_{2.5} emissions; therefore, the proposed project would not have a significant effect on regional air quality. As shown in Table J, SJVAPCD emissions of ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5} would be below the thresholds. Therefore, operation of the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project is nonattainment under applicable federal or State ambient air quality standards.

The project would be required to implement District Rule 9510 (Indirect Source Review [ISR]) as the project would develop more than 2,000 square feet of commercial space. Implementation of Rule 9510 would reduce operational emissions of NO_x and PM₁₀ by 33.3 percent and 50 percent respectively. The Project Applicant must submit an Air Impact Assessment to the SJVAPCD consistent with Rule 9510 prior to obtaining building permits.

CO Analysis

There is a direct relationship between traffic and circulation congestion and CO impacts because exhaust fumes from vehicular traffic are the primary source of CO, which is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections. These areas of vehicle congestion have historically had the potential to create pockets of elevated levels of CO that are called "hot spots." However, with the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the project vicinity have steadily declined.

With implementation of future intersection improvements recommended in the Traffic Impact Assessment, the project would not substantially affect the existing LOS at each intersection of the project vicinity. Given the existing CO concentrations in the project area are relatively low (See Table E), project-related vehicles are not expected to contribute significantly to increased levels of CO concentrations in the project area. The project is not expected to result in CO concentrations that would exceed the State or federal CO standards. Because no new CO hot spots would occur, there would be no project-related impacts on CO concentrations.

Health Risk on Nearby Sensitive Receptors

The only toxic air contaminant emissions of potentially significant quantity would be those associated with the construction of the project from large, heavy-duty diesel-powered equipment exhaust. The California Office of Environmental Health Hazard Assessment (OEHHA) currently describes the health risk from diesel exhaust entirely in terms of the amount of particulate, or PM₁₀, that is emitted. Currently, the health risk associated with diesel exhaust PM₁₀ only has a carcinogenic and chronic effect; no short-term acute effect is recognized. The construction period of the project lasts only a short time, relative to the length of time required for carcinogenic and chronic health impacts (i.e., 30 years). As shown in Table I, PM₁₀ emissions from construction would be low. Given the project size, location, and the anticipated timeframe for the construction phase, the carcinogenic inhalation health risk associated with TAC exposure from construction activities would be below the threshold of 20 in one million. The non-carcinogenic health risk associated with TAC exposure from construction activities would be below the hazard index of 1. Therefore the health risk associated with construction emissions would not be significant.

The proposed project would include a gas station with eight gas pumps. The gas pumps would be located approximately 200 feet east of the closest sensitive receptors. As discussed in the Air Quality Regulatory Setting above, the CARB Handbook recommends avoiding siting new, sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). However, as identified in Table J, project operational emissions of criteria pollutants would be below SJVAPCD significance thresholds; thus, they are not likely to have a significant impact on these residences given the distance and the dispersion that would occur. The gasoline station would comply with SJVAPCD rules for gasoline vapor recovery, including Rule 2260 Registration Requirements for Equipment Subject to California's Oil and Gas Regulation, Rule 3156 Fees for Equipment Subject to Rule 2260 Registration Requirements for Equipment Subject to California's Oil and Gas Regulation, and Rule 4622 Gasoline Transfer into Motor Vehicle Fuel Tanks. Compliance with SJVAPCD rules would further limit doses and exposures, reducing potential health risk related to gasoline vapors to a level that is not significant. Therefore, nearby sensitive receptors would not be exposed to a risk that equals or exceeds 20 in one million in regards to carcinogenic TACs. In addition, nearby sensitive receptors would not be exposed to a risk that equals or exceeds a health index of 1 for non-carcinogenic TACs. Therefore, operation emissions from the project would not result in a substantial health risk.

Odors

Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction activity would cease to occur after individual

construction is completed. No other sources of objectionable odors have been identified for the project, and no mitigation measures are required.

The SJVAPCD addresses odor criteria within the GAMAQI. The district has not established a rule or standard regarding odor emissions, rather, the district has a nuisance rule: “Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact.” The proposed uses are not anticipated to emit any objectionable odors. The gas station could release localized odors; however, all the gasoline dispensers would be equipped with vapor recovery systems. In addition, such odors in general would be confined mainly to the project site and would readily dissipate. Therefore, objectionable odors affecting a substantial number of people would not occur as a result of the project.

Naturally Occurring Asbestos

The project is located in Kern County, which is among the counties found to have serpentine and ultramafic rock in their soils.⁴² However, according to the California Geological Survey, no such rock has been identified in the project vicinity. In addition, the demolition of existing buildings may expose asbestos used in building materials; however, the project would not involve any demolition or renovation as no current development exists on the project site. Therefore, the potential risk for naturally occurring asbestos during project construction is small and would not be significant.

Valley Fever

The closest sensitive receptor locations to the project site include the single family residences located immediately east of the project site, along Lucerne Drive, Engelberg Drive, Interlaken Drive, and Innsburck Drive. Single family residences are also located approximately 55 feet east of the project site on Astor Avenue and approximately 85 feet north of the project site on Kirkwood Avenue. Except under high wind conditions, this distance is sufficient that particulate matter would settle prior to reaching the nearest sensitive receptor. In addition, crosswinds influenced by the adjacent traffic intersection would help dissipate any particulate matter associated with the construction phase of the project. Therefore, any Valley Fever spores suspended with the dust would not reach the sensitive receptors. However, during project construction, it is possible that workers could be exposed to Valley Fever through fugitive dust. Dust control measures, consistent with SJVAPCD Regulation VIII, would reduce the exposure to the workers and nearby residences. Dust from the construction of the project is not anticipated to significantly add to the existing exposure of people to Valley Fever.

Greenhouse Gas Impacts

This section discusses the project’s impacts related to the release of GHG emissions for both construction and project operation.

⁴² California Department of Conservation (CDC). California Geological Survey. Asbestos. Website: http://www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx, accessed January 2019.

Short-Term Greenhouse Gas Emissions

Construction activities associated with the proposed project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that construction of the proposed project would generate approximately 670.9 metric tons of CO₂e. Table K lists the annual GHG emissions for each construction phase (details are provided in the CalEEMod output in Appendix A).

Table K: Greenhouse Gas Construction Emissions

Construction Year	Peak Annual Emissions (MT/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
2019	156.9	0.0	0.0	157.9
2020	510.9	0.1	0.0	513.0
Total Construction Emissions				670.9

Source: Compiled by LSA (January 2019).

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

MT/CO₂e = metric tons of carbon dioxide equivalent

N₂O = nitrous oxide

Implementation of the SJVAPCD's Fugitive Dust Control Measures would reduce GHG emissions by reducing the amount of construction vehicle idling and by requiring the use of properly maintained equipment.

Long-Term Greenhouse Gas Emissions

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources as well as indirect emissions from sources associated with energy consumption. Mobile-source GHG emissions would include project-generated vehicle trips associated with trips to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, and other sources.

Operational emissions estimates for the proposed project are discussed below and were calculated using a method that is consistent with methodology recommended in the SJVAPCD's GAMAQI, as described below.

Methodology

The methodology and/or qualitative description of the sources of GHG emissions associated with transportation, electricity, water use, and solid waste disposal are described below.

Transportation. Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips. Transportation is the largest source of GHG emissions in California and represents approximately 38 percent of annual CO₂ emissions in the State. For land use development projects, vehicle miles traveled (VMT) and vehicle trips are the most direct indicators of GHG emissions associated with the proposed project. The proposed project would typically generate approximately 2,385 net new average daily trips, which were included in the CalEEMod analysis.

Electricity and Natural Gas. Buildings represent 39 percent of United States primary energy use and 70 percent of electricity consumption.⁴³ Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. The project is anticipated to increase the use of electricity and natural gas; however, as part of the project's compliance with the latest California Building Code standards, the project is expected to be relatively energy efficient and would incorporate green building measures in compliance with the latest CALGreen's standard building measures for nonresidential buildings and Title 24 requirements.

Water Use. Water and wastewater related GHG emissions are based on water supply and conveyance, water treatment, water distribution, and wastewater treatment. Each element of the water use cycle has unique energy intensities (kilowatt hours [kWh]/million gallons). Recognizing that the actual energy intensity in each component of the water use cycle will vary by utility, the California Energy Commission (CEC) assumes that approximately 3,950 kWh per million gallons are consumed for water that is supplied, treated, consumed, treated again, and disposed of in northern California.

Solid Waste Disposal. Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Land filling and other methods of disposal use energy for transporting and managing the waste, and these activities produce additional GHGs to varying degrees. Land filling, the most common waste management practice, results in the release of CH₄ from the anaerobic decomposition of organic materials. CH₄ is 25 times more potent a GHG than CO₂. However, landfill CH₄ can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

Project Emissions

When calculating project GHG emissions to compare to the thresholds of significance, the SJVAPCD recommends that the lead agency consider project design features, attributes, and local development requirements as part of the project as proposed and not as mitigation measures. Consistent with SJVAPCD guidance, GHG emissions were estimated using CalEEMod.

Table L shows the calculated GHG emissions for the proposed project. Mobile source emissions are the largest category, at approximately 64 percent of total CO₂e emissions, followed by energy source emissions at approximately 25 percent of the total. Waste and water source emissions are approximately 6 percent and 5 percent of the total respectively. Additional calculation details are provided in Appendix A.

⁴³ U.S. Department of Energy, 2003. *Buildings Energy Data Book*.

Table L: Operational Greenhouse Gas Emissions

Operational Source	Pollutant Emissions (MT/year)					
	Bio-CO ₂	NBio-CO ₂	Combined CO ₂	CH ₄	N ₂ O	Total CO ₂ e
Area	0.0	0.0	0.0	0.0	0.0	0.0
Energy	0.0	797.9	797.9	0.0	0.0	803.3
Mobile	0.0	2,045.2	2,045.2	0.0	0.0	2,050.9
Waste	85.0	0.0	85.0	0.0	0.0	210.7
Water	22.4	56.9	79.3	0.1	0.1	153.3
Total Project Emissions	107.4	2,900.0	3,007.4	0.1	0.1	3,218.1

Source: Compiled by LSA (January 2019).

Bio-CO₂ = biologically generated CO₂

CH₄ = methane

CO₂ = carbon dioxide

CO₂e = carbon dioxide equivalent

MT/year = metric tons per year

N₂O = nitrous oxide

NBio-CO₂ = non-biologically generated CO₂

As shown in Table L, the project would generate 3,218.1 metric tons of CO₂e per year. The project is not expected to be exempt from CEQA requirements and the City has not adopted a CAP or GHG thresholds of significance; therefore, the first two GHG significance criteria would not apply. Therefore, although the project would likely implement many of the BPS that the SJVAPCD has established for commercial development projects, the exact selections and corresponding total percent reduction cannot be determined. Therefore, based on SJVAPCD guidance, an analysis was conducted to determine if the project would result in a 29 percent reduction in GHG emissions compared to BAU.

Table M provides a comparison of the estimated metric tons of CO₂e per year emissions from the project's operational activities in 2005 and 2020. As provided in Table M, the project's estimated annual GHG emissions are approximately 8,923.6 metric tons of CO₂e under 2005 (BAU Conditions) and 3,218.1 metric tons of CO₂e in 2020 for project operations. This represents a 64 percent decrease in emissions, which meets the SJVAPCD reduction criteria of 29 percent reduction from BAU. Therefore, the project would not result in emissions exceeding the SJVAPCD criteria for GHG emissions.

Table M: Comparison of Project and Business-As-Usual GHG Emissions

Emissions Source	GHG Emissions (Metric Tons CO ₂ e per Year)		Percent Reduction
	2005	2020	
Area	0.0	0.0	0
Energy	1,198.9	803.3	33
Mobile	7,306.6	2,050.9	72
Waste	210.7	210.7	0
Water	207.4	153.3	54
Total Operational	8,923.6	3,218.1	64
SJVAPCD Criteria	29 percent reduction from BAU		
Significant impact?	No		

Source: LSA (January 2019).

The project, and vehicles traveling to the project site, would implement several measures required by State regulations to reduce GHG emissions by 2020, including the following:

- Pavley II (LEV III) Advanced Clean Cars Program;
- 2016 California Green Building Code Standards;
- Renewable Portfolio Standard;
- California Model Water Efficient Landscape Ordinance; and
- CalRecycle Waste Diversion and Recycling Mandate.

The second phase of Pavley standards will reduce GHG emissions from new cars by 34 percent from 2016 levels by 2025, resulting in a 3 percent decrease in average vehicle emissions for all vehicles by 2020. The California Green Building Code Standards reduce GHGs by including a variety of different measures, including reduction of construction waste, wastewater, water use, and building energy use. The 2016 Green building Standards, which were included in the CalEEMod analysis, reduce energy use by 28 percent compared to 2013 standards and 32 percent compared to the 2008 standards, representing a substantial reduction compared to 2005 levels. The Renewable Portfolio Standard requires electricity purchased for use at the project Site to be composed of at least 33 percent renewable energy by 2020. The Water Efficient Landscape Ordinance will reduce indoor water use by 20 percent, and the CalRecycle Waste Diversion and Recycling Mandate will reduce solid waste production by 25 percent.

Implementation of these measures is expected to allow the State to achieve AB 32 emission targets by 2020. Therefore, at this time no additional regulations are required from new development beyond those already established by the State to achieve the AB 32 target. Therefore, a BAU analysis that shows the project would achieve the reductions required by regulations to meet the AB 32 target would demonstrate that the project GHG emissions would be less than significant.

The Newhall Ranch case indicates that as 2020 nears, new post-2020 thresholds will be necessary. The project is expected to be operational in 2020 and the 2020 target would still be appropriate. Additionally, operation of the project would comply with any new measures established to achieve post-2020 reductions.

Consistency with Greenhouse Gas Emissions Reduction Plans

In 2018, the Kern Council of Governments (KernCOG) adopted a Sustainable Communities Strategy (SCS) that includes strategies to reduce GHG emissions from passenger vehicles and light-duty trucks by 5 percent per capita by 2020 and 10 percent per capita by 2035 compared to 2005.⁴⁴ The SCS recognizes that land use development is an important element of transportation planning and has included goals to ensure that land use projects are environmentally sound. The SCS demonstrates

⁴⁴ Kern County Council of Governments (KernCOG), 2018. Regional Transportation Plan/Sustainable Communities Strategy. August 16. Website: http://www.kerncog.org/wp-content/uploads/2018/10/2018_RTP.pdf, accessed January 2019

how the region will help meet the State goals included in AB 32 and SB 375. The project's consistency with the KernCOG SCS and the policies listed within is shown in Table N. As shown in Table N, the project would be consistent with the goals and policies listed in the County's SCS.

Table N: Project Compliance with Kern County's Sustainable Communities Strategy

Strategy	Project Compliance
Transportation Demand Management	
Promote carpooling, vanpooling, telecommuting and teleconferencing	Compliant. The project would develop commercial uses providing mass employment and the opportunities for employers to establish carpooling and vanpooling programs for employees. The usage of telecommuting and teleconferencing is currently unknown; however, the project would provide modern infrastructure and connectivity that would support such communication.
Expand Vanpools	Compliant. The project would develop commercial uses, and tenant employers would have the opportunity to establish a vanpool program for employees.
Promote walking and biking (e.g., new class I bicycle facilities, inter-city bikeways)	Compliant. The project would include bicycle and pedestrian infrastructure to include bicycle racks and sidewalks. This infrastructure would connect future nearby developments.
Implement employer-based trip reduction strategies and Indirect Source Rule	Compliant. The project would develop commercial uses, and tenant employers would have the opportunity to establish trip reduction programs for employees. The project would be consistent with the SJVAPCD Rule 9510.
Road Projects	
Delay capacity increasing project (e.g., new beltway)	Compliant. As indicated in the project's Traffic Impact Assessment, mitigation at some of the study area intersections will be required by 2035 to maintain or improve the operational level of service to acceptable levels. These improvements will be accomplished through improvements identified in the Regional Transportation Impact Fee Program as well as the improvements required on the project boundaries.
Add general purpose lanes (e.g., reduce congestion and out-of-direction travel)	Compliant. As indicated in the project's Traffic Impact Assessment, mitigation at some of the study area intersections will be required by 2035 to maintain or improve the operational level of service to acceptable levels. These improvements will be accomplished through improvements identified in the Regional Transportation Impact Fee Program as well as the improvements required on the project boundaries.
Land Use	
Modify distribution of households, population, jobs or other variables	Compliant. The project would provide the nearby communities with new commercial uses modifying the distribution of jobs in the community. The project would be developed in a Transit Priority Area that would further distribute job opportunities.
Rebalance housing closer to employment/shopping areas	Compliant. The project would develop commercial uses providing already nearby residents with a new employment/shopping area.
Improve the pedestrian environment (walk distance to transit centers)	Compliant. The project would include pedestrian infrastructure within the project site that would facilitate pedestrian movement. In addition, the project site is located near the local bus route, further improving the pedestrian environment and transit centers.

Table N: Project Compliance with Kern County's Sustainable Communities Strategy

Strategy	Project Compliance
Other Sustainable Practices	
Energy and water conservation	Compliant. The project would comply with the 2016 California Building Standards Code (California Code of Regulations, Title 24). The 2016 Title 24 standards are more energy efficient than the 2013 Title 24 standards or any other preceding standards. Hence, the project would reduce energy demand by improved efficiency and building design and be efficient with water usage.
Quality design	Compliant. The project would comply with the 2016 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11). Hence, the project would facilitate the use of quality design.

Source: Compiled by LSA (January 2019).

AB = Assembly Bill

CARB = California Air Resources Board

CIWMB = California Integrated Waste Management Board

GHG = greenhouse gas

GWP = global warming potential

CUMULATIVE IMPACTS

The project would contribute criteria pollutants to the area during temporary project construction. A number of individual projects in the area may be under construction simultaneously with the project. Depending on construction schedules and actual implementation of projects in the area, generation of fugitive dust and pollutant emissions during construction could result in substantial short-term increases in air pollutants. However, each project would be required to comply with SJVAPCD's standard construction measures. The project's short-term construction emissions would not exceed the significance thresholds. Therefore, the project's contribution to cumulative impacts associated with short-term construction emissions would not be cumulatively considerable.

The project's long-term operational emissions would not exceed the SJVAPCD criteria pollutant thresholds and therefore the project would result in a less than significant impact related to long-term air quality emissions. Because air pollutants impacts are cumulative in nature, no typical single project can result in emissions of such a magnitude that it, in and of itself, would be significant on a project basis. The project would require a General Plan Amendment to allow for commercial uses on the site. However, the project would be consistent with the City's General Plan goals and policies related to air quality. The project would comply with the SJVAPCD dust control measures during construction operations. The project would also be consistent with the City's General Plan goal of promoting a pattern of land uses which locates commercial services such as those included in the project within close proximity to residential areas to minimize vehicular travel. Based on the project's consistency with the City's General Plan goals and policies and less-than-significant air quality emissions, the project would not result in a significant cumulative impact related to air quality criteria emissions. The project would also be consistent with the growth assumptions within the SJVAPCD's AQMPs. Therefore, the project's contribution to long-term cumulative impacts associated with long-term air emissions during project operations would not be cumulatively considerable.

Climate change is occurring because of increased concentrations of GHG emissions globally. No one source or project can generate enough GHG emissions to increase global concentrations in the

upper atmosphere. Rather, the combination of all anthropogenic sources of emissions that have occurred in the past and continue to be emitted is causing global climate change impacts. Due to the nature of the assessment of GHG emissions and the effects of global climate change, impacts are only analyzed from a cumulative context. The analysis provided above includes the analysis of both the project and cumulative GHG impacts, and indicates the project's contribution to GHG emissions would not be cumulatively considerable.

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APPENDIX A

CALEEMOD OUTPUT SHEETS

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Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Annual

Hosking Avenue/South H Street Commercial Project

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	328.8	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor based on 5-year average (PG&E 2015)

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Assuming construction activities would October 2019 and would be completed by the end of 2020.

Vehicle Trips - Based on trip generation prepared for the proposed project.

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblLandUse	LandUseSquareFeet	298,820.00	298,821.00
tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	204.47	91.72
tblVehicleTrips	ST_TR	696.00	429.50
tblVehicleTrips	ST_TR	722.03	297.60
tblVehicleTrips	ST_TR	1.32	0.81
tblVehicleTrips	SU_TR	166.88	91.72
tblVehicleTrips	SU_TR	500.00	429.50
tblVehicleTrips	SU_TR	542.72	297.60
tblVehicleTrips	SU_TR	0.68	0.81
tblVehicleTrips	WD_TR	542.60	91.72
tblVehicleTrips	WD_TR	716.00	429.50
tblVehicleTrips	WD_TR	496.12	297.60
tblVehicleTrips	WD_TR	6.97	0.81

2.0 Emissions Summary

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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					
2019	0.1306	1.3630	0.8787	1.7400e-003	0.2397	0.0626	0.3023	0.1088	0.0579	0.1667	0.0000	156.8910	156.8910	0.0399	0.0000	157.8896
2020	2.4509	2.8277	2.4588	5.7200e-003	0.1506	0.1280	0.2786	0.0409	0.1202	0.1611	0.0000	510.9438	510.9438	0.0803	0.0000	512.9516
Maximum	2.4509	2.8277	2.4588	5.7200e-003	0.2397	0.1280	0.3023	0.1088	0.1202	0.1667	0.0000	510.9438	510.9438	0.0803	0.0000	512.9516

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					
2019	0.1306	1.3630	0.8787	1.7400e-003	0.1185	0.0626	0.1811	0.0518	0.0579	0.1097	0.0000	156.8908	156.8908	0.0399	0.0000	157.8895
2020	2.4509	2.8277	2.4588	5.7200e-003	0.1506	0.1280	0.2786	0.0409	0.1202	0.1611	0.0000	510.9435	510.9435	0.0803	0.0000	512.9513
Maximum	2.4509	2.8277	2.4588	5.7200e-003	0.1506	0.1280	0.2786	0.0518	0.1202	0.1611	0.0000	510.9435	510.9435	0.0803	0.0000	512.9513

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	31.06	0.00	20.87	38.07	0.00	17.38	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-7-2019	1-6-2020	1.5352	1.5352
2	1-7-2020	4-6-2020	0.9471	0.9471
3	4-7-2020	7-6-2020	0.9435	0.9435
4	7-7-2020	9-30-2020	0.8916	0.8916
		Highest	1.5352	1.5352

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003
Energy	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	797.8569	797.8569	0.0440	0.0146	803.3059
Mobile	0.7388	7.3751	5.6063	0.0220	1.0550	0.0234	1.0783	0.2838	0.0221	0.3059	0.0000	2,045.2090	2,045.2090	0.2258	0.0000	2,050.8544
Waste						0.0000	0.0000		0.0000	0.0000	85.0370	0.0000	85.0370	5.0255	0.0000	210.6755
Water						0.0000	0.0000		0.0000	0.0000	22.3539	56.9312	79.2851	2.3010	0.0553	153.2746
Total	2.1878	7.7257	5.9042	0.0241	1.0550	0.0500	1.1050	0.2838	0.0488	0.3326	107.3909	2,900.0038	3,007.3947	7.5964	0.0698	3,218.1175

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003
Energy	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	797.8569	797.8569	0.0440	0.0146	803.3059
Mobile	0.7388	7.3751	5.6063	0.0220	1.0550	0.0234	1.0783	0.2838	0.0221	0.3059	0.0000	2,045.2090	2,045.2090	0.2258	0.0000	2,050.8544
Waste						0.0000	0.0000		0.0000	0.0000	85.0370	0.0000	85.0370	5.0255	0.0000	210.6755
Water						0.0000	0.0000		0.0000	0.0000	22.3539	56.9312	79.2851	2.3010	0.0553	153.2746
Total	2.1878	7.7257	5.9042	0.0241	1.0550	0.0500	1.1050	0.2838	0.0488	0.3326	107.3909	2,900.0038	3,007.3947	7.5964	0.0698	3,218.1175

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/7/2019	10/18/2019	5	10	
2	Grading	Grading	10/19/2019	11/29/2019	5	30	
3	Building Construction	Building Construction	11/30/2019	10/2/2020	5	220	
4	Paving	Paving	10/3/2020	11/13/2020	5	30	
5	Architectural Coating	Architectural Coating	11/14/2020	12/25/2020	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0903	0.0120	0.1023	0.0497	0.0110	0.0607	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6668	0.6668	2.0000e-005	0.0000	0.6673
Total	4.2000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6668	0.6668	2.0000e-005	0.0000	0.6673

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0217	0.2279	0.1103	1.9000e-004		0.0120	0.0120		0.0110	0.0110	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195
Total	0.0217	0.2279	0.1103	1.9000e-004	0.0407	0.0120	0.0526	0.0223	0.0110	0.0333	0.0000	17.0843	17.0843	5.4100e-003	0.0000	17.2195

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3.2 Site Preparation - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.2000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6668	0.6668	2.0000e-005	0.0000	0.6673
Total	4.2000e-004	2.9000e-004	2.9500e-003	1.0000e-005	7.2000e-004	1.0000e-005	7.2000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6668	0.6668	2.0000e-005	0.0000	0.6673

3.3 Grading - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5520	83.5520	0.0264	0.0000	84.2129
Total	0.0711	0.8178	0.5007	9.3000e-004	0.1301	0.0357	0.1658	0.0540	0.0329	0.0868	0.0000	83.5520	83.5520	0.0264	0.0000	84.2129

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3.3 Grading - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	9.8000e-004	9.8500e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.2226	2.2226	7.0000e-005	0.0000	2.2244
Total	1.3900e-003	9.8000e-004	9.8500e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.2226	2.2226	7.0000e-005	0.0000	2.2244

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0586	0.0000	0.0586	0.0243	0.0000	0.0243	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0711	0.8178	0.5007	9.3000e-004		0.0357	0.0357		0.0329	0.0329	0.0000	83.5519	83.5519	0.0264	0.0000	84.2128
Total	0.0711	0.8178	0.5007	9.3000e-004	0.0586	0.0357	0.0943	0.0243	0.0329	0.0572	0.0000	83.5519	83.5519	0.0264	0.0000	84.2128

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3.3 Grading - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3900e-003	9.8000e-004	9.8500e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.2226	2.2226	7.0000e-005	0.0000	2.2244
Total	1.3900e-003	9.8000e-004	9.8500e-003	2.0000e-005	2.4000e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.2226	2.2226	7.0000e-005	0.0000	2.2244

3.4 Building Construction - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8615	25.8615	6.3000e-003	0.0000	26.0190

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3.4 Building Construction - 2019**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-003	0.0792	0.0159	1.7000e-004	3.9400e-003	6.0000e-004	4.5400e-003	1.1400e-003	5.7000e-004	1.7100e-003	0.0000	16.1761	16.1761	1.3500e-003	0.0000	16.2099
Worker	7.1100e-003	4.9900e-003	0.0502	1.3000e-004	0.0122	9.0000e-005	0.0123	3.2500e-003	8.0000e-005	3.3300e-003	0.0000	11.3277	11.3277	3.6000e-004	0.0000	11.3368
Total	0.0100	0.0842	0.0661	3.0000e-004	0.0162	6.9000e-004	0.0169	4.3900e-003	6.5000e-004	5.0400e-003	0.0000	27.5039	27.5039	1.7100e-003	0.0000	27.5467

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	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189
Total	0.0260	0.2319	0.1888	3.0000e-004		0.0142	0.0142		0.0133	0.0133	0.0000	25.8614	25.8614	6.3000e-003	0.0000	26.0189

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3.4 Building Construction - 2019**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.9000e-003	0.0792	0.0159	1.7000e-004	3.9400e-003	6.0000e-004	4.5400e-003	1.1400e-003	5.7000e-004	1.7100e-003	0.0000	16.1761	16.1761	1.3500e-003	0.0000	16.2099
Worker	7.1100e-003	4.9900e-003	0.0502	1.3000e-004	0.0122	9.0000e-005	0.0123	3.2500e-003	8.0000e-005	3.3300e-003	0.0000	11.3277	11.3277	3.6000e-004	0.0000	11.3368
Total	0.0100	0.0842	0.0661	3.0000e-004	0.0162	6.9000e-004	0.0169	4.3900e-003	6.5000e-004	5.0400e-003	0.0000	27.5039	27.5039	1.7100e-003	0.0000	27.5467

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2099	1.8994	1.6680	2.6600e-003		0.1106	0.1106		0.1040	0.1040	0.0000	229.2939	229.2939	0.0559	0.0000	230.6924
Total	0.2099	1.8994	1.6680	2.6600e-003		0.1106	0.1106		0.1040	0.1040	0.0000	229.2939	229.2939	0.0559	0.0000	230.6924

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3.4 Building Construction - 2020**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	0.0212	0.6507	0.1234	1.5200e-003	0.0354	3.5900e-003	0.0390	0.0102	3.4300e-003	0.0137	0.0000	144.3526	144.3526	0.0114	0.0000	144.6375
Worker	0.0582	0.0395	0.4013	1.0900e-003	0.1100	7.8000e-004	0.1108	0.0292	7.2000e-004	0.0300	0.0000	98.7945	98.7945	2.8300e-003	0.0000	98.8652
Total	0.0794	0.6902	0.5247	2.6100e-003	0.1455	4.3700e-003	0.1498	0.0395	4.1500e-003	0.0436	0.0000	243.1470	243.1470	0.0142	0.0000	243.5027

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	0.2099	1.8994	1.6680	2.6600e-003		0.1106	0.1106		0.1040	0.1040	0.0000	229.2936	229.2936	0.0559	0.0000	230.6921
Total	0.2099	1.8994	1.6680	2.6600e-003		0.1106	0.1106		0.1040	0.1040	0.0000	229.2936	229.2936	0.0559	0.0000	230.6921

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3.4 Building Construction - 2020**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	0.0212	0.6507	0.1234	1.5200e-003	0.0354	3.5900e-003	0.0390	0.0102	3.4300e-003	0.0137	0.0000	144.3526	144.3526	0.0114	0.0000	144.6375
Worker	0.0582	0.0395	0.4013	1.0900e-003	0.1100	7.8000e-004	0.1108	0.0292	7.2000e-004	0.0300	0.0000	98.7945	98.7945	2.8300e-003	0.0000	98.8652
Total	0.0794	0.6902	0.5247	2.6100e-003	0.1455	4.3700e-003	0.1498	0.0395	4.1500e-003	0.0436	0.0000	243.1470	243.1470	0.0142	0.0000	243.5027

3.5 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0204	0.2110	0.2198	3.4000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	30.0423	30.0423	9.7200e-003	0.0000	30.2852
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0225	0.2110	0.2198	3.4000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	30.0423	30.0423	9.7200e-003	0.0000	30.2852

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3.5 Paving - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	6.5000e-004	6.5600e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6153	1.6153	5.0000e-005	0.0000	1.6165
Total	9.5000e-004	6.5000e-004	6.5600e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6153	1.6153	5.0000e-005	0.0000	1.6165

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	0.0204	0.2110	0.2198	3.4000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	30.0423	30.0423	9.7200e-003	0.0000	30.2852
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0225	0.2110	0.2198	3.4000e-004		0.0113	0.0113		0.0104	0.0104	0.0000	30.0423	30.0423	9.7200e-003	0.0000	30.2852

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3.5 Paving - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.5000e-004	6.5000e-004	6.5600e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6153	1.6153	5.0000e-005	0.0000	1.6165
Total	9.5000e-004	6.5000e-004	6.5600e-003	2.0000e-005	1.8000e-003	1.0000e-005	1.8100e-003	4.8000e-004	1.0000e-005	4.9000e-004	0.0000	1.6153	1.6153	5.0000e-005	0.0000	1.6165

3.6 Architectural Coating - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.1329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6300e-003	0.0253	0.0275	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	3.8299	3.8299	3.0000e-004	0.0000	3.8373
Total	2.1365	0.0253	0.0275	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	3.8299	3.8299	3.0000e-004	0.0000	3.8373

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3.6 Architectural Coating - 2020**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	1.2100e-003	0.0123	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	3.0153	3.0153	9.0000e-005	0.0000	3.0175
Total	1.7800e-003	1.2100e-003	0.0123	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	3.0153	3.0153	9.0000e-005	0.0000	3.0175

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	2.1329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6300e-003	0.0253	0.0275	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	3.8299	3.8299	3.0000e-004	0.0000	3.8373
Total	2.1365	0.0253	0.0275	4.0000e-005		1.6600e-003	1.6600e-003		1.6600e-003	1.6600e-003	0.0000	3.8299	3.8299	3.0000e-004	0.0000	3.8373

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3.6 Architectural Coating - 2020**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.7800e-003	1.2100e-003	0.0123	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	3.0153	3.0153	9.0000e-005	0.0000	3.0175
Total	1.7800e-003	1.2100e-003	0.0123	3.0000e-005	3.3600e-003	2.0000e-005	3.3800e-003	8.9000e-004	2.0000e-005	9.1000e-004	0.0000	3.0153	3.0153	9.0000e-005	0.0000	3.0175

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	Fugitive 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	0.7388	7.3751	5.6063	0.0220	1.0550	0.0234	1.0783	0.2838	0.0221	0.3059	0.0000	2,045.2090	2,045.2090	0.2258	0.0000	2,050.8544
Unmitigated	0.7388	7.3751	5.6063	0.0220	1.0550	0.0234	1.0783	0.2838	0.0221	0.3059	0.0000	2,045.2090	2,045.2090	0.2258	0.0000	2,050.8544

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	733.76	733.76	733.76	393,592	393,592
Fast Food Restaurant w/o Drive Thru	515.40	515.40	515.40	831,118	831,118
Fast Food Restaurant with Drive Thru	892.80	892.80	892.80	834,165	834,165
General Light Industry	242.04	242.04	242.04	706,651	706,651
Parking Lot	0.00	0.00	0.00		
Total	2,384.00	2,384.00	2,384.00	2,765,526	2,765,526

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant w/o Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant with Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
General Light Industry	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Parking Lot	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	416.1852	416.1852	0.0367	7.5900e-003	419.3661
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	416.1852	416.1852	0.0367	7.5900e-003	419.3661
NaturalGas Mitigated	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	381.6717	381.6717	7.3200e-003	7.0000e-003	383.9398
NaturalGas Unmitigated	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	381.6717	381.6717	7.3200e-003	7.0000e-003	383.9398

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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	32100	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7130	1.7130	3.0000e-005	3.0000e-005	1.7232
Fast Food Restaurant w/o Drive Thru	252504	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4746	13.4746	2.6000e-004	2.5000e-004	13.5547
Fast Food Restaurant with Drive Thru	631260	3.4000e-003	0.0309	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6864	33.6864	6.5000e-004	6.2000e-004	33.8866
General Light Industry	6.23639e+006	0.0336	0.3057	0.2568	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7978	332.7978	6.3800e-003	6.1000e-003	334.7754
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0386	0.3506	0.2945	2.1000e-003		0.0266	0.0266		0.0266	0.0266	0.0000	381.6718	381.6718	7.3200e-003	7.0000e-003	383.9398

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	32100	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7130	1.7130	3.0000e-005	3.0000e-005	1.7232
Fast Food Restaurant w/o Drive Thru	252504	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4746	13.4746	2.6000e-004	2.5000e-004	13.5547
Fast Food Restaurant with Drive Thru	631260	3.4000e-003	0.0309	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6864	33.6864	6.5000e-004	6.2000e-004	33.8866
General Light Industry	6.23639e+006	0.0336	0.3057	0.2568	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7978	332.7978	6.3800e-003	6.1000e-003	334.7754
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0386	0.3506	0.2945	2.1000e-003		0.0266	0.0266		0.0266	0.0266	0.0000	381.6718	381.6718	7.3200e-003	7.0000e-003	383.9398

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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	24450	3.6465	3.2000e-004	7.0000e-005	3.6744
Fast Food Restaurant w/o Drive Thru	34764	5.1847	4.6000e-004	9.0000e-005	5.2244
Fast Food Restaurant with Drive Thru	86910	12.9619	1.1400e-003	2.4000e-004	13.0609
General Light Industry	2.6356e+006	393.0767	0.0347	7.1700e-003	396.0809
Parking Lot	8820	1.3154	1.2000e-004	2.0000e-005	1.3255
Total		416.1852	0.0367	7.5900e-003	419.3661

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	24450	3.6465	3.2000e-004	7.0000e-005	3.6744
Fast Food Restaurant w/o Drive Thru	34764	5.1847	4.6000e-004	9.0000e-005	5.2244
Fast Food Restaurant with Drive Thru	86910	12.9619	1.1400e-003	2.4000e-004	13.0609
General Light Industry	2.6356e+006	393.0767	0.0347	7.1700e-003	396.0809
Parking Lot	8820	1.3154	1.2000e-004	2.0000e-005	1.3255
Total		416.1852	0.0367	7.5900e-003	419.3661

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003
Unmitigated	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-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	0.2133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003
Total	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003

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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	0.2133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.3000e-004	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003
Total	1.4104	3.0000e-005	3.4600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	6.6800e-003	6.6800e-003	2.0000e-005	0.0000	7.1300e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	79.2851	2.3010	0.0553	153.2746
Unmitigated	79.2851	2.3010	0.0553	153.2746

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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	0.0836574 / 0.0512739	0.1208	2.7300e-003	7.0000e-005	0.2089
Fast Food Restaurant w/o Drive Thru	0.36424 / 0.0232494	0.4216	0.0119	2.9000e-004	0.8042
Fast Food Restaurant with Drive Thru	0.910601 / 0.0581235	1.0541	0.0297	7.1000e-004	2.0105
General Light Industry	69.1021 / 0	77.6885	2.2566	0.0542	150.2510
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		79.2851	2.3010	0.0553	153.2746

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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	0.0836574 / 0.0512739	0.1208	2.7300e-003	7.0000e-005	0.2089
Fast Food Restaurant w/o Drive Thru	0.36424 / 0.0232494	0.4216	0.0119	2.9000e-004	0.8042
Fast Food Restaurant with Drive Thru	0.910601 / 0.0581235	1.0541	0.0297	7.1000e-004	2.0105
General Light Industry	69.1021 / 0	77.6885	2.2566	0.0542	150.2510
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		79.2851	2.3010	0.0553	153.2746

8.0 Waste Detail**8.1 Mitigation Measures Waste**

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	85.0370	5.0255	0.0000	210.6755
Unmitigated	85.0370	5.0255	0.0000	210.6755

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	13.82	2.8053	0.1658	0.0000	6.9501
Fast Food Restaurant with Drive Thru	34.56	7.0154	0.4146	0.0000	17.3803
General Light Industry	370.54	75.2163	4.4452	0.0000	186.3451
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		85.0370	5.0255	0.0000	210.6755

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	13.82	2.8053	0.1658	0.0000	6.9501
Fast Food Restaurant with Drive Thru	34.56	7.0154	0.4146	0.0000	17.3803
General Light Industry	370.54	75.2163	4.4452	0.0000	186.3451
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		85.0370	5.0255	0.0000	210.6755

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

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Equipment Type	Number
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11.0 Vegetation

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

Hosking Avenue/South H Street Commercial Project

San Joaquin Valley Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	328.8	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor based on 5-year average (PG&E 2015)

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Assuming construction activities would October 2019 and would be completed by the end of 2020.

Vehicle Trips - Based on trip generation prepared for the proposed project.

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblLandUse	LandUseSquareFeet	298,820.00	298,821.00
tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	204.47	91.72
tblVehicleTrips	ST_TR	696.00	429.50
tblVehicleTrips	ST_TR	722.03	297.60
tblVehicleTrips	ST_TR	1.32	0.81
tblVehicleTrips	SU_TR	166.88	91.72
tblVehicleTrips	SU_TR	500.00	429.50
tblVehicleTrips	SU_TR	542.72	297.60
tblVehicleTrips	SU_TR	0.68	0.81
tblVehicleTrips	WD_TR	542.60	91.72
tblVehicleTrips	WD_TR	716.00	429.50
tblVehicleTrips	WD_TR	496.12	297.60
tblVehicleTrips	WD_TR	6.97	0.81

2.0 Emissions Summary

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

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					
2019	4.8444	54.5805	34.1338	0.0638	18.2141	2.3914	20.6056	9.9699	2.2001	12.1700	0.0000	6,319.057 9	6,319.057 9	1.9484	0.0000	6,367.768 5
2020	142.5678	26.0329	22.6953	0.0546	1.5079	1.1609	2.6687	0.4083	1.0920	1.5002	0.0000	5,387.850 7	5,387.850 7	0.7783	0.0000	5,407.306 9
Maximum	142.5678	54.5805	34.1338	0.0638	18.2141	2.3914	20.6056	9.9699	2.2001	12.1700	0.0000	6,319.057 9	6,319.057 9	1.9484	0.0000	6,367.768 5

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					
2019	4.8444	54.5805	34.1338	0.0638	8.2777	2.3914	10.6691	4.5080	2.2001	6.7081	0.0000	6,319.057 9	6,319.057 9	1.9484	0.0000	6,367.768 5
2020	142.5678	26.0329	22.6953	0.0546	1.5079	1.1609	2.6687	0.4083	1.0920	1.5002	0.0000	5,387.850 7	5,387.850 7	0.7783	0.0000	5,407.306 9
Maximum	142.5678	54.5805	34.1338	0.0638	8.2777	2.3914	10.6691	4.5080	2.2001	6.7081	0.0000	6,319.057 9	6,319.057 9	1.9484	0.0000	6,367.768 5

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.38	0.00	42.69	52.63	0.00	39.95	0.00	0.00	0.00	0.00	0.00	0.00

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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	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	4.9683	40.3810	31.4900	0.1276	5.9513	0.1262	6.0775	1.5975	0.1194	1.7169		13,076.3421	13,076.3421	1.3143		13,109.2002
Total	12.9097	42.3024	33.1421	0.1391	5.9513	0.2724	6.2237	1.5975	0.2656	1.8631		15,381.7449	15,381.7449	1.3587	0.0423	15,428.3079

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	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	4.9683	40.3810	31.4900	0.1276	5.9513	0.1262	6.0775	1.5975	0.1194	1.7169		13,076.3421	13,076.3421	1.3143		13,109.2002
Total	12.9097	42.3024	33.1421	0.1391	5.9513	0.2724	6.2237	1.5975	0.2656	1.8631		15,381.7449	15,381.7449	1.3587	0.0423	15,428.3079

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/7/2019	10/18/2019	5	10	
2	Grading	Grading	10/19/2019	11/29/2019	5	30	
3	Building Construction	Building Construction	11/30/2019	10/2/2020	5	220	
4	Paving	Paving	10/3/2020	11/13/2020	5	30	
5	Architectural Coating	Architectural Coating	11/14/2020	12/25/2020	5	30	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 75****Acres of Paving: 1.64****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)****OffRoad Equipment**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.2 Site Preparation - 2019**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	0.0949	0.0543	0.6813	1.6200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		161.1346	161.1346	5.2100e-003		161.2648
Total	0.0949	0.0543	0.6813	1.6200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		161.1346	161.1346	5.2100e-003		161.2648

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.2 Site Preparation - 2019**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	0.0949	0.0543	0.6813	1.6200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		161.1346	161.1346	5.2100e-003		161.2648
Total	0.0949	0.0543	0.6813	1.6200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		161.1346	161.1346	5.2100e-003		161.2648

3.3 Grading - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	8.6733	2.3827	11.0560	3.5965	2.1920	5.7885		6,140.0195	6,140.0195	1.9426		6,188.5854

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.3 Grading - 2019**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	0.1055	0.0603	0.7571	1.8000e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		179.0385	179.0385	5.7900e-003		179.1831
Total	0.1055	0.0603	0.7571	1.8000e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		179.0385	179.0385	5.7900e-003		179.1831

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					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	3.9030	2.3827	6.2857	1.6184	2.1920	3.8105	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.3 Grading - 2019**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	0.1055	0.0603	0.7571	1.8000e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		179.0385	179.0385	5.7900e-003		179.1831
Total	0.1055	0.0603	0.7571	1.8000e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		179.0385	179.0385	5.7900e-003		179.1831

3.4 Building Construction - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

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3.4 Building Construction - 2019**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	0.2602	7.0837	1.3522	0.0157	0.3660	0.0540	0.4200	0.1054	0.0517	0.1571		1,642.695 3	1,642.695 3	0.1285		1,645.908 4
Worker	0.7330	0.4194	5.2615	0.0125	1.1419	8.1800e-003	1.1500	0.3029	7.5400e-003	0.3104		1,244.317 2	1,244.317 2	0.0402		1,245.322 6
Total	0.9932	7.5031	6.6136	0.0282	1.5078	0.0622	1.5700	0.4083	0.0592	0.4675		2,887.012 6	2,887.012 6	0.1687		2,891.231 0

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.4 Building Construction - 2019**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	0.2602	7.0837	1.3522	0.0157	0.3660	0.0540	0.4200	0.1054	0.0517	0.1571		1,642.695 3	1,642.695 3	0.1285		1,645.908 4
Worker	0.7330	0.4194	5.2615	0.0125	1.1419	8.1800e-003	1.1500	0.3029	7.5400e-003	0.3104		1,244.317 2	1,244.317 2	0.0402		1,245.322 6
Total	0.9932	7.5031	6.6136	0.0282	1.5078	0.0622	1.5700	0.4083	0.0592	0.4675		2,887.012 6	2,887.012 6	0.1687		2,891.231 0

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.4 Building Construction - 2020**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	0.2107	6.4779	1.1590	0.0156	0.3660	0.0359	0.4019	0.1054	0.0344	0.1397		1,628.8877	1,628.8877	0.1204		1,631.8979
Worker	0.6663	0.3690	4.6878	0.0121	1.1419	7.9200e-003	1.1498	0.3029	7.2900e-003	0.3102		1,205.9000	1,205.9000	0.0350		1,206.7745
Total	0.8770	6.8468	5.8468	0.0277	1.5079	0.0438	1.5517	0.4083	0.0416	0.4499		2,834.7876	2,834.7876	0.1554		2,838.6724

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345

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3.4 Building Construction - 2020**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	0.2107	6.4779	1.1590	0.0156	0.3660	0.0359	0.4019	0.1054	0.0344	0.1397		1,628.887 7	1,628.887 7	0.1204		1,631.897 9
Worker	0.6663	0.3690	4.6878	0.0121	1.1419	7.9200e-003	1.1498	0.3029	7.2900e-003	0.3102		1,205.900 0	1,205.900 0	0.0350		1,206.774 5
Total	0.8770	6.8468	5.8468	0.0277	1.5079	0.0438	1.5517	0.4083	0.0416	0.4499		2,834.787 6	2,834.787 6	0.1554		2,838.672 4

3.5 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4998	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

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3.5 Paving - 2020**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	0.0719	0.0398	0.5059	1.3100e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		130.1331	130.1331	3.7700e-003		130.2275
Total	0.0719	0.0398	0.5059	1.3100e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		130.1331	130.1331	3.7700e-003		130.2275

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4998	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

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3.5 Paving - 2020**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	0.0719	0.0398	0.5059	1.3100e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		130.1331	130.1331	3.7700e-003		130.2275
Total	0.0719	0.0398	0.5059	1.3100e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		130.1331	130.1331	3.7700e-003		130.2275

3.6 Architectural Coating - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	142.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	142.4336	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020**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	0.1342	0.0743	0.9443	2.4400e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		242.9151	242.9151	7.0500e-003		243.0913
Total	0.1342	0.0743	0.9443	2.4400e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		242.9151	242.9151	7.0500e-003		243.0913

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	142.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	142.4336	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

3.6 Architectural Coating - 2020**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	0.1342	0.0743	0.9443	2.4400e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		242.9151	242.9151	7.0500e-003		243.0913
Total	0.1342	0.0743	0.9443	2.4400e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		242.9151	242.9151	7.0500e-003		243.0913

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.9683	40.3810	31.4900	0.1276	5.9513	0.1262	6.0775	1.5975	0.1194	1.7169		13,076.34 21	13,076.34 21	1.3143		13,109.20 02
Unmitigated	4.9683	40.3810	31.4900	0.1276	5.9513	0.1262	6.0775	1.5975	0.1194	1.7169		13,076.34 21	13,076.34 21	1.3143		13,109.20 02

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	733.76	733.76	733.76	393,592	393,592
Fast Food Restaurant w/o Drive Thru	515.40	515.40	515.40	831,118	831,118
Fast Food Restaurant with Drive Thru	892.80	892.80	892.80	834,165	834,165
General Light Industry	242.04	242.04	242.04	706,651	706,651
Parking Lot	0.00	0.00	0.00		
Total	2,384.00	2,384.00	2,384.00	2,765,526	2,765,526

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant w/o Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant with Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
General Light Industry	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Parking Lot	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
NaturalGas Unmitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

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	87.9452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	691.792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1729.48	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.0879452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	0.691792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1.72948	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17.086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

6.0 Area Detail**6.1 Mitigation Measures Area**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Unmitigated	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

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	1.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6200e-003	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Total	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

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	1.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6200e-003	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Total	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

Hosking Avenue/South H Street Commercial Project

San Joaquin Valley Unified APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2020
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	328.8	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - CO2 intensity factor based on 5-year average (PG&E 2015)

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Assuming construction activities would October 2019 and would be completed by the end of 2020.

Vehicle Trips - Based on trip generation prepared for the proposed project.

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblLandUse	LandUseSquareFeet	298,820.00	298,821.00
tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50
tblProjectCharacteristics	CO2IntensityFactor	641.35	328.8
tblVehicleTrips	ST_TR	204.47	91.72
tblVehicleTrips	ST_TR	696.00	429.50
tblVehicleTrips	ST_TR	722.03	297.60
tblVehicleTrips	ST_TR	1.32	0.81
tblVehicleTrips	SU_TR	166.88	91.72
tblVehicleTrips	SU_TR	500.00	429.50
tblVehicleTrips	SU_TR	542.72	297.60
tblVehicleTrips	SU_TR	0.68	0.81
tblVehicleTrips	WD_TR	542.60	91.72
tblVehicleTrips	WD_TR	716.00	429.50
tblVehicleTrips	WD_TR	496.12	297.60
tblVehicleTrips	WD_TR	6.97	0.81

2.0 Emissions Summary

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

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					
2019	4.8379	54.5919	34.0270	0.0636	18.2141	2.3914	20.6056	9.9699	2.2001	12.1700	0.0000	6,297.528 ₉	6,297.528 ₉	1.9478	0.0000	6,346.222 ₈
2020	142.5595	26.1852	22.2160	0.0526	1.5079	1.1616	2.6695	0.4083	1.0927	1.5009	0.0000	5,191.305 ₆	5,191.305 ₆	0.7894	0.0000	5,211.040 ₁
Maximum	142.5595	54.5919	34.0270	0.0636	18.2141	2.3914	20.6056	9.9699	2.2001	12.1700	0.0000	6,297.528 ₉	6,297.528 ₉	1.9478	0.0000	6,346.222 ₈

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					
2019	4.8379	54.5919	34.0270	0.0636	8.2777	2.3914	10.6691	4.5080	2.2001	6.7081	0.0000	6,297.528 ₉	6,297.528 ₉	1.9478	0.0000	6,346.222 ₈
2020	142.5595	26.1852	22.2160	0.0526	1.5079	1.1616	2.6695	0.4083	1.0927	1.5009	0.0000	5,191.305 ₆	5,191.305 ₆	0.7894	0.0000	5,211.040 ₁
Maximum	142.5595	54.5919	34.0270	0.0636	8.2777	2.3914	10.6691	4.5080	2.2001	6.7081	0.0000	6,297.528 ₉	6,297.528 ₉	1.9478	0.0000	6,346.222 ₈

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.38	0.00	42.69	52.63	0.00	39.95	0.00	0.00	0.00	0.00	0.00	0.00

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

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	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	3.8613	40.3463	33.2310	0.1166	5.9513	0.1315	6.0828	1.5975	0.1245	1.7220		11,947.2244	11,947.2244	1.4581		11,983.6768
Total	11.8027	42.2678	34.8832	0.1281	5.9513	0.2777	6.2290	1.5975	0.2707	1.8681		14,252.6272	14,252.6272	1.5025	0.0423	14,302.7844

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	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	3.8613	40.3463	33.2310	0.1166	5.9513	0.1315	6.0828	1.5975	0.1245	1.7220		11,947.2244	11,947.2244	1.4581		11,983.6768
Total	11.8027	42.2678	34.8832	0.1281	5.9513	0.2777	6.2290	1.5975	0.2707	1.8681		14,252.6272	14,252.6272	1.5025	0.0423	14,302.7844

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/7/2019	10/18/2019	5	10	
2	Grading	Grading	10/19/2019	11/29/2019	5	30	
3	Building Construction	Building Construction	11/30/2019	10/2/2020	5	220	
4	Paving	Paving	10/3/2020	11/13/2020	5	30	
5	Architectural Coating	Architectural Coating	11/14/2020	12/25/2020	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)

OffRoad Equipment

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Site Preparation - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991		3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	18.0663	2.3904	20.4566	9.9307	2.1991	12.1298		3,766.4529	3,766.4529	1.1917		3,796.2445

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.2 Site Preparation - 2019**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	0.0891	0.0645	0.5852	1.4200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		141.7585	141.7585	4.6100e-003		141.8737
Total	0.0891	0.0645	0.5852	1.4200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		141.7585	141.7585	4.6100e-003		141.8737

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	4.3350	45.5727	22.0630	0.0380		2.3904	2.3904		2.1991	2.1991	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445
Total	4.3350	45.5727	22.0630	0.0380	8.1298	2.3904	10.5202	4.4688	2.1991	6.6679	0.0000	3,766.4529	3,766.4529	1.1917		3,796.2445

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.2 Site Preparation - 2019**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	0.0891	0.0645	0.5852	1.4200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		141.7585	141.7585	4.6100e-003		141.8737
Total	0.0891	0.0645	0.5852	1.4200e-003	0.1479	1.0600e-003	0.1489	0.0392	9.8000e-004	0.0402		141.7585	141.7585	4.6100e-003		141.8737

3.3 Grading - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920		6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	8.6733	2.3827	11.0560	3.5965	2.1920	5.7885		6,140.0195	6,140.0195	1.9426		6,188.5854

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3.3 Grading - 2019**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	0.0990	0.0717	0.6502	1.5800e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		157.5094	157.5094	5.1200e-003		157.6374
Total	0.0990	0.0717	0.6502	1.5800e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		157.5094	157.5094	5.1200e-003		157.6374

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					3.9030	0.0000	3.9030	1.6184	0.0000	1.6184			0.0000			0.0000
Off-Road	4.7389	54.5202	33.3768	0.0620		2.3827	2.3827		2.1920	2.1920	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854
Total	4.7389	54.5202	33.3768	0.0620	3.9030	2.3827	6.2857	1.6184	2.1920	3.8105	0.0000	6,140.0195	6,140.0195	1.9426		6,188.5854

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.3 Grading - 2019**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	0.0990	0.0717	0.6502	1.5800e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		157.5094	157.5094	5.1200e-003		157.6374
Total	0.0990	0.0717	0.6502	1.5800e-003	0.1643	1.1800e-003	0.1655	0.0436	1.0800e-003	0.0447		157.5094	157.5094	5.1200e-003		157.6374

3.4 Building Construction - 2019**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.5802	2,591.5802	0.6313		2,607.3635

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3.4 Building Construction - 2019**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	0.2710	7.1951	1.5773	0.0152	0.3660	0.0550	0.4210	0.1054	0.0526	0.1580		1,591.078 1	1,591.078 1	0.1445		1,594.691 4
Worker	0.6878	0.4983	4.5187	0.0110	1.1419	8.1800e-003	1.1500	0.3029	7.5400e-003	0.3104		1,094.690 4	1,094.690 4	0.0356		1,095.579 9
Total	0.9589	7.6934	6.0960	0.0262	1.5078	0.0631	1.5710	0.4083	0.0601	0.4684		2,685.768 5	2,685.768 5	0.1801		2,690.271 2

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2019**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	0.2710	7.1951	1.5773	0.0152	0.3660	0.0550	0.4210	0.1054	0.0526	0.1580		1,591.078 1	1,591.078 1	0.1445		1,594.691 4
Worker	0.6878	0.4983	4.5187	0.0110	1.1419	8.1800e-003	1.1500	0.3029	7.5400e-003	0.3104		1,094.690 4	1,094.690 4	0.0356		1,095.579 9
Total	0.9589	7.6934	6.0960	0.0262	1.5078	0.0631	1.5710	0.4083	0.0601	0.4684		2,685.768 5	2,685.768 5	0.1801		2,690.271 2

3.4 Building Construction - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.063 1	2,553.063 1	0.6229		2,568.634 5

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3.4 Building Construction - 2020**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	0.2204	6.5613	1.3637	0.0151	0.3660	0.0366	0.4026	0.1054	0.0351	0.1404		1,577.473 4	1,577.473 4	0.1358		1,580.867 3
Worker	0.6250	0.4379	4.0038	0.0107	1.1419	7.9200e-003	1.1498	0.3029	7.2900e-003	0.3102		1,060.769 1	1,060.769 1	0.0308		1,061.538 3
Total	0.8455	6.9991	5.3675	0.0257	1.5079	0.0446	1.5524	0.4083	0.0423	0.4506		2,638.242 5	2,638.242 5	0.1665		2,642.405 6

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2020**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	0.2204	6.5613	1.3637	0.0151	0.3660	0.0366	0.4026	0.1054	0.0351	0.1404		1,577.473 4	1,577.473 4	0.1358		1,580.867 3
Worker	0.6250	0.4379	4.0038	0.0107	1.1419	7.9200e-003	1.1498	0.3029	7.2900e-003	0.3102		1,060.769 1	1,060.769 1	0.0308		1,061.538 3
Total	0.8455	6.9991	5.3675	0.0257	1.5079	0.0446	1.5524	0.4083	0.0423	0.4506		2,638.242 5	2,638.242 5	0.1665		2,642.405 6

3.5 Paving - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4998	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.733 4	2,207.733 4	0.7140		2,225.584 1

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.5 Paving - 2020**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	0.0675	0.0473	0.4321	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		114.4715	114.4715	3.3200e-003		114.5545
Total	0.0675	0.0473	0.4321	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		114.4715	114.4715	3.3200e-003		114.5545

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4998	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

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3.5 Paving - 2020**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	0.0675	0.0473	0.4321	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		114.4715	114.4715	3.3200e-003		114.5545
Total	0.0675	0.0473	0.4321	1.1500e-003	0.1232	8.5000e-004	0.1241	0.0327	7.9000e-004	0.0335		114.4715	114.4715	3.3200e-003		114.5545

3.6 Architectural Coating - 2020**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	142.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	142.4336	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

3.6 Architectural Coating - 2020**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	0.1259	0.0882	0.8065	2.1500e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		213.6801	213.6801	6.2000e-003		213.8351
Total	0.1259	0.0882	0.8065	2.1500e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		213.6801	213.6801	6.2000e-003		213.8351

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	142.1914					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928
Total	142.4336	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109	0.0000	281.4481	281.4481	0.0218		281.9928

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3.6 Architectural Coating - 2020**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	0.1259	0.0882	0.8065	2.1500e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		213.6801	213.6801	6.2000e-003		213.8351
Total	0.1259	0.0882	0.8065	2.1500e-003	0.2300	1.6000e-003	0.2316	0.0610	1.4700e-003	0.0625		213.6801	213.6801	6.2000e-003		213.8351

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.8613	40.3463	33.2310	0.1166	5.9513	0.1315	6.0828	1.5975	0.1245	1.7220		11,947.22 44	11,947.22 44	1.4581		11,983.67 68
Unmitigated	3.8613	40.3463	33.2310	0.1166	5.9513	0.1315	6.0828	1.5975	0.1245	1.7220		11,947.22 44	11,947.22 44	1.4581		11,983.67 68

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	733.76	733.76	733.76	393,592	393,592
Fast Food Restaurant w/o Drive Thru	515.40	515.40	515.40	831,118	831,118
Fast Food Restaurant with Drive Thru	892.80	892.80	892.80	834,165	834,165
General Light Industry	242.04	242.04	242.04	706,651	706,651
Parking Lot	0.00	0.00	0.00		
Total	2,384.00	2,384.00	2,384.00	2,765,526	2,765,526

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant w/o Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Fast Food Restaurant with Drive Thru	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
General Light Industry	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848
Parking Lot	0.499524	0.033454	0.168279	0.130431	0.021581	0.005690	0.021752	0.108566	0.001799	0.001690	0.005397	0.000987	0.000848

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
NaturalGas Unmitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

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	87.9452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	691.792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1729.48	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.0879452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	0.691792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1.72948	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17.086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

6.0 Area Detail**6.1 Mitigation Measures Area**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Unmitigated	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

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	1.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6200e-003	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Total	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

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	1.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.6200e-003	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873
Total	7.7301	3.5000e-004	0.0384	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004		0.0819	0.0819	2.2000e-004		0.0873

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Hosking Avenue/South H Street Commercial Project - San Joaquin Valley Unified APCD Air District, Winter

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

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

Equipment Type	Number
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11.0 Vegetation

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Hosking Avenue/South H Street Commercial Project - 2005

San Joaquin Valley Unified APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Operational run only

Vehicle Trips -

Energy Use - Using historical data

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Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	4/14/2006	12/23/2005
tblConstructionPhase	PhaseEndDate	2/17/2006	9/30/2005
tblConstructionPhase	PhaseEndDate	12/24/2004	11/26/2004
tblConstructionPhase	PhaseEndDate	3/17/2006	11/11/2005
tblConstructionPhase	PhaseEndDate	11/12/2004	10/15/2004
tblConstructionPhase	PhaseStartDate	3/18/2006	11/12/2005
tblConstructionPhase	PhaseStartDate	12/25/2004	11/27/2004
tblConstructionPhase	PhaseStartDate	11/13/2004	10/16/2004
tblConstructionPhase	PhaseStartDate	2/18/2006	10/1/2005
tblConstructionPhase	PhaseStartDate	10/30/2004	10/4/2004
tblEnergyUse	LightingElect	4.53	3.71
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	3.35	2.70
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	T24E	2.77	2.14
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	2.52	1.96
tblEnergyUse	T24NG	10.42	8.62
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	19.93	17.03

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tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50

2.0 Emissions Summary

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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					
2004	0.4787	3.1455	2.1284	0.0184	0.2419	0.1784	0.4203	0.1094	0.1779	0.2874	0.0000	188.7336	188.7336	0.0395	0.0000	189.7221
2005	4.7839	6.7852	5.3094	0.0492	0.1484	0.4411	0.5895	0.0403	0.4385	0.4788	0.0000	565.2233	565.2233	0.1260	0.0000	568.3725
Maximum	4.7839	6.7852	5.3094	0.0492	0.2419	0.4411	0.5895	0.1094	0.4385	0.4788	0.0000	565.2233	565.2233	0.1260	0.0000	568.3725

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					
2004	0.4787	3.1455	2.1284	0.0184	0.2419	0.1784	0.4203	0.1094	0.1779	0.2874	0.0000	188.7334	188.7334	0.0395	0.0000	189.7220
2005	4.7839	6.7852	5.3094	0.0492	0.1484	0.4411	0.5895	0.0403	0.4385	0.4788	0.0000	565.2230	565.2230	0.1260	0.0000	568.3722
Maximum	4.7839	6.7852	5.3094	0.0492	0.2419	0.4411	0.5895	0.1094	0.4385	0.4788	0.0000	565.2230	565.2230	0.1260	0.0000	568.3722

[illegible]

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	10-4-2004	1-3-2005	3.6508	3.6508
2	1-4-2005	4-3-2005	2.3904	2.3904
3	4-4-2005	7-3-2005	2.3875	2.3875
4	7-4-2005	9-30-2005	2.3350	2.3350
		Highest	3.6508	3.6508

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003
Energy	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	1,193.473 3	1,193.473 3	0.0440	0.0146	1,198.922 3
Mobile	10.8579	58.2244	88.6648	0.3828	3.5578	1.2173	4.7750	0.9590	1.1623	2.1213	0.0000	7,246.114 2	7,246.114 2	2.4180	0.0000	7,306.564 6
Waste						0.0000	0.0000		0.0000	0.0000	85.0370	0.0000	85.0370	5.0255	0.0000	210.6755
Water						0.0000	0.0000		0.0000	0.0000	22.3539	111.0487	133.4026	2.3010	0.0553	207.3921
Total	12.4490	58.5751	88.9637	0.3849	3.5578	1.2439	4.8017	0.9590	1.1890	2.1480	107.3909	8,550.642 9	8,658.033 8	9.7886	0.0698	8,923.561 9

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2.2 Overall Operational**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003
Energy	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	1,193.4733	1,193.4733	0.0440	0.0146	1,198.9223
Mobile	10.8579	58.2244	88.6648	0.3828	3.5578	1.2173	4.7750	0.9590	1.1623	2.1213	0.0000	7,246.1142	7,246.1142	2.4180	0.0000	7,306.5646
Waste						0.0000	0.0000		0.0000	0.0000	85.0370	0.0000	85.0370	5.0255	0.0000	210.6755
Water						0.0000	0.0000		0.0000	0.0000	22.3539	111.0487	133.4026	2.3010	0.0553	207.3921
Total	12.4490	58.5751	88.9637	0.3849	3.5578	1.2439	4.8017	0.9590	1.1890	2.1480	107.3909	8,550.6429	8,658.0338	9.7886	0.0698	8,923.5619

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/4/2004	10/15/2004	5	10	
2	Grading	Grading	10/16/2004	11/26/2004	5	30	
3	Building Construction	Building Construction	11/27/2004	9/30/2005	5	220	
4	Paving	Paving	10/1/2005	11/11/2005	5	30	
5	Architectural Coating	Architectural Coating	11/12/2005	12/23/2005	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

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3.1 Mitigation Measures Construction**3.2 Site Preparation - 2004****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0561	0.4016	0.1539	2.2500e-003		0.0252	0.0252		0.0252	0.0252	0.0000	20.0023	20.0023	4.5700e-003	0.0000	20.1165
Total	0.0561	0.4016	0.1539	2.2500e-003	0.0903	0.0252	0.1156	0.0497	0.0252	0.0749	0.0000	20.0023	20.0023	4.5700e-003	0.0000	20.1165

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	2.3500e-003	2.7500e-003	0.0246	1.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	0.7929	0.7929	1.4000e-004	0.0000	0.7964
Total	2.3500e-003	2.7500e-003	0.0246	1.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	0.7929	0.7929	1.4000e-004	0.0000	0.7964

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3.2 Site Preparation - 2004**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0561	0.4016	0.1539	2.2500e-003		0.0252	0.0252		0.0252	0.0252	0.0000	20.0023	20.0023	4.5700e-003	0.0000	20.1164
Total	0.0561	0.4016	0.1539	2.2500e-003	0.0903	0.0252	0.1156	0.0497	0.0252	0.0749	0.0000	20.0023	20.0023	4.5700e-003	0.0000	20.1164

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	2.3500e-003	2.7500e-003	0.0246	1.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	0.7929	0.7929	1.4000e-004	0.0000	0.7964
Total	2.3500e-003	2.7500e-003	0.0246	1.0000e-005	7.2000e-004	3.0000e-005	7.5000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	0.7929	0.7929	1.4000e-004	0.0000	0.7964

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3.3 Grading - 2004**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2268	1.8263	0.9233	0.0103		0.0963	0.0963		0.0963	0.0963	0.0000	98.1543	98.1543	0.0184	0.0000	98.6154
Total	0.2268	1.8263	0.9233	0.0103	0.1301	0.0963	0.2264	0.0540	0.0963	0.1503	0.0000	98.1543	98.1543	0.0184	0.0000	98.6154

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8500e-003	9.1600e-003	0.0818	4.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.4000e-004	1.0000e-004	7.3000e-004	0.0000	2.6429	2.6429	4.7000e-004	0.0000	2.6548
Total	7.8500e-003	9.1600e-003	0.0818	4.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.4000e-004	1.0000e-004	7.3000e-004	0.0000	2.6429	2.6429	4.7000e-004	0.0000	2.6548

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3.3 Grading - 2004**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.2268	1.8263	0.9233	0.0103		0.0963	0.0963		0.0963	0.0963	0.0000	98.1542	98.1542	0.0184	0.0000	98.6153
Total	0.2268	1.8263	0.9233	0.0103	0.1301	0.0963	0.2264	0.0540	0.0963	0.1503	0.0000	98.1542	98.1542	0.0184	0.0000	98.6153

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.8500e-003	9.1600e-003	0.0818	4.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.4000e-004	1.0000e-004	7.3000e-004	0.0000	2.6429	2.6429	4.7000e-004	0.0000	2.6548
Total	7.8500e-003	9.1600e-003	0.0818	4.0000e-005	2.4000e-003	1.0000e-004	2.5000e-003	6.4000e-004	1.0000e-004	7.3000e-004	0.0000	2.6429	2.6429	4.7000e-004	0.0000	2.6548

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3.4 Building Construction - 2004**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	0.1091	0.6033	0.2795	3.8000e-003		0.0474	0.0474		0.0474	0.0474	0.0000	32.8576	32.8576	8.8800e-003	0.0000	33.0797
Total	0.1091	0.6033	0.2795	3.8000e-003		0.0474	0.0474		0.0474	0.0474	0.0000	32.8576	32.8576	8.8800e-003	0.0000	33.0797

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	0.0311	0.2493	0.1914	1.7300e-003	4.4700e-003	8.6500e-003	0.0131	1.2900e-003	8.2700e-003	9.5700e-003	0.0000	18.9768	18.9768	4.2900e-003	0.0000	19.0840
Worker	0.0455	0.0531	0.4740	2.6000e-004	0.0139	6.0000e-004	0.0145	3.6900e-003	5.6000e-004	4.2500e-003	0.0000	15.3067	15.3067	2.7500e-003	0.0000	15.3755
Total	0.0765	0.3024	0.6653	1.9900e-003	0.0184	9.2500e-003	0.0276	4.9800e-003	8.8300e-003	0.0138	0.0000	34.2835	34.2835	7.0400e-003	0.0000	34.4595

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3.4 Building Construction - 2004**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	0.1091	0.6033	0.2795	3.8000e-003		0.0474	0.0474		0.0474	0.0474	0.0000	32.8576	32.8576	8.8800e-003	0.0000	33.0796
Total	0.1091	0.6033	0.2795	3.8000e-003		0.0474	0.0474		0.0474	0.0474	0.0000	32.8576	32.8576	8.8800e-003	0.0000	33.0796

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	0.0311	0.2493	0.1914	1.7300e-003	4.4700e-003	8.6500e-003	0.0131	1.2900e-003	8.2700e-003	9.5700e-003	0.0000	18.9768	18.9768	4.2900e-003	0.0000	19.0840
Worker	0.0455	0.0531	0.4740	2.6000e-004	0.0139	6.0000e-004	0.0145	3.6900e-003	5.6000e-004	4.2500e-003	0.0000	15.3067	15.3067	2.7500e-003	0.0000	15.3755
Total	0.0765	0.3024	0.6653	1.9900e-003	0.0184	9.2500e-003	0.0276	4.9800e-003	8.8300e-003	0.0138	0.0000	34.2835	34.2835	7.0400e-003	0.0000	34.4595

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3.4 Building Construction - 2005**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	0.7328	4.0409	1.9879	0.0297		0.3393	0.3393		0.3393	0.3393	0.0000	256.2895	256.2895	0.0598	0.0000	257.7846
Total	0.7328	4.0409	1.9879	0.0297		0.3393	0.3393		0.3393	0.3393	0.0000	256.2895	256.2895	0.0598	0.0000	257.7846

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	0.1762	1.8331	0.9318	0.0137	0.0349	0.0537	0.0886	0.0101	0.0513	0.0614	0.0000	145.8319	145.8319	0.0424	0.0000	146.8923
Worker	0.2133	0.2120	1.9938	1.3300e-003	0.1084	2.6800e-003	0.1110	0.0288	2.4900e-003	0.0313	0.0000	117.5293	117.5293	0.0150	0.0000	117.9049
Total	0.3895	2.0451	2.9256	0.0150	0.1433	0.0563	0.1996	0.0389	0.0538	0.0927	0.0000	263.3611	263.3611	0.0574	0.0000	264.7971

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3.4 Building Construction - 2005**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	0.7328	4.0409	1.9878	0.0297		0.3393	0.3393		0.3393	0.3393	0.0000	256.2892	256.2892	0.0598	0.0000	257.7843
Total	0.7328	4.0409	1.9878	0.0297		0.3393	0.3393		0.3393	0.3393	0.0000	256.2892	256.2892	0.0598	0.0000	257.7843

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	0.1762	1.8331	0.9318	0.0137	0.0349	0.0537	0.0886	0.0101	0.0513	0.0614	0.0000	145.8319	145.8319	0.0424	0.0000	146.8923
Worker	0.2133	0.2120	1.9938	1.3300e-003	0.1084	2.6800e-003	0.1110	0.0288	2.4900e-003	0.0313	0.0000	117.5293	117.5293	0.0150	0.0000	117.9049
Total	0.3895	2.0451	2.9256	0.0150	0.1433	0.0563	0.1996	0.0389	0.0538	0.0927	0.0000	263.3611	263.3611	0.0574	0.0000	264.7971

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3.5 Paving - 2005**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	0.0868	0.6250	0.2699	4.0400e-003		0.0396	0.0396		0.0396	0.0396	0.0000	36.1493	36.1493	7.0800e-003	0.0000	36.3264
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0890	0.6250	0.2699	4.0400e-003		0.0396	0.0396		0.0396	0.0396	0.0000	36.1493	36.1493	7.0800e-003	0.0000	36.3264

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5400e-003	3.5200e-003	0.0331	2.0000e-005	1.8000e-003	4.0000e-005	1.8400e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	1.9512	1.9512	2.5000e-004	0.0000	1.9575
Total	3.5400e-003	3.5200e-003	0.0331	2.0000e-005	1.8000e-003	4.0000e-005	1.8400e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	1.9512	1.9512	2.5000e-004	0.0000	1.9575

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3.5 Paving - 2005**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	0.0868	0.6250	0.2699	4.0400e-003		0.0396	0.0396		0.0396	0.0396	0.0000	36.1492	36.1492	7.0800e-003	0.0000	36.3263
Paving	2.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0890	0.6250	0.2699	4.0400e-003		0.0396	0.0396		0.0396	0.0396	0.0000	36.1492	36.1492	7.0800e-003	0.0000	36.3263

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.5400e-003	3.5200e-003	0.0331	2.0000e-005	1.8000e-003	4.0000e-005	1.8400e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	1.9512	1.9512	2.5000e-004	0.0000	1.9575
Total	3.5400e-003	3.5200e-003	0.0331	2.0000e-005	1.8000e-003	4.0000e-005	1.8400e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	1.9512	1.9512	2.5000e-004	0.0000	1.9575

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3.6 Architectural Coating - 2005**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	3.5513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0642	0.0312	4.5000e-004		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	3.8299	3.8299	9.2000e-004	0.0000	3.8530
Total	3.5626	0.0642	0.0312	4.5000e-004		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	3.8299	3.8299	9.2000e-004	0.0000	3.8530

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	6.6100e-003	6.5700e-003	0.0618	4.0000e-005	3.3600e-003	8.0000e-005	3.4400e-003	8.9000e-004	8.0000e-005	9.7000e-004	0.0000	3.6423	3.6423	4.7000e-004	0.0000	3.6539
Total	6.6100e-003	6.5700e-003	0.0618	4.0000e-005	3.3600e-003	8.0000e-005	3.4400e-003	8.9000e-004	8.0000e-005	9.7000e-004	0.0000	3.6423	3.6423	4.7000e-004	0.0000	3.6539

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3.6 Architectural Coating - 2005**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	3.5513					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0113	0.0642	0.0312	4.5000e-004		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	3.8299	3.8299	9.2000e-004	0.0000	3.8530
Total	3.5626	0.0642	0.0312	4.5000e-004		5.7600e-003	5.7600e-003		5.7600e-003	5.7600e-003	0.0000	3.8299	3.8299	9.2000e-004	0.0000	3.8530

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	6.6100e-003	6.5700e-003	0.0618	4.0000e-005	3.3600e-003	8.0000e-005	3.4400e-003	8.9000e-004	8.0000e-005	9.7000e-004	0.0000	3.6423	3.6423	4.7000e-004	0.0000	3.6539
Total	6.6100e-003	6.5700e-003	0.0618	4.0000e-005	3.3600e-003	8.0000e-005	3.4400e-003	8.9000e-004	8.0000e-005	9.7000e-004	0.0000	3.6423	3.6423	4.7000e-004	0.0000	3.6539

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	10.8579	58.2244	88.6648	0.3828	3.5578	1.2173	4.7750	0.9590	1.1623	2.1213	0.0000	7,246.114 2	7,246.114 2	2.4180	0.0000	7,306.564 6
Unmitigated	10.8579	58.2244	88.6648	0.3828	3.5578	1.2173	4.7750	0.9590	1.1623	2.1213	0.0000	7,246.114 2	7,246.114 2	2.4180	0.0000	7,306.564 6

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	4,340.80	1,635.76	1335.04	1,890,810	1,890,810
Fast Food Restaurant w/o Drive Thru	859.20	835.20	600.00	1,320,279	1,320,279
Fast Food Restaurant with Drive Thru	1,488.36	2,166.09	1628.16	1,499,732	1,499,732
General Light Industry	2,082.78	394.44	203.20	4,592,622	4,592,622
Parking Lot	0.00	0.00	0.00		
Total	8,771.14	5,031.49	3,766.40	9,303,442	9,303,442

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant w/o Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant with Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
General Light Industry	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Parking Lot	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

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	ROG	NOx	CO	SO2	Fugitive 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	811.8016	811.8016	0.0367	7.5900e-003	814.9825
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	811.8016	811.8016	0.0367	7.5900e-003	814.9825
NaturalGas Mitigated	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	381.6717	381.6717	7.3200e-003	7.0000e-003	383.9398
NaturalGas Unmitigated	0.0386	0.3506	0.2945	2.1000e-003		0.0267	0.0267		0.0267	0.0267	0.0000	381.6717	381.6717	7.3200e-003	7.0000e-003	383.9398

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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	32100	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7130	1.7130	3.0000e-005	3.0000e-005	1.7232
Fast Food Restaurant w/o Drive Thru	252504	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4746	13.4746	2.6000e-004	2.5000e-004	13.5547
Fast Food Restaurant with Drive Thru	631260	3.4000e-003	0.0309	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6864	33.6864	6.5000e-004	6.2000e-004	33.8866
General Light Industry	6.23639e+006	0.0336	0.3057	0.2568	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7978	332.7978	6.3800e-003	6.1000e-003	334.7754
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0386	0.3506	0.2945	2.1000e-003		0.0266	0.0266		0.0266	0.0266	0.0000	381.6718	381.6718	7.3200e-003	7.0000e-003	383.9398

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Convenience Market With Gas Pumps	32100	1.7000e-004	1.5700e-003	1.3200e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7130	1.7130	3.0000e-005	3.0000e-005	1.7232
Fast Food Restaurant w/o Drive Thru	252504	1.3600e-003	0.0124	0.0104	7.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	13.4746	13.4746	2.6000e-004	2.5000e-004	13.5547
Fast Food Restaurant with Drive Thru	631260	3.4000e-003	0.0309	0.0260	1.9000e-004		2.3500e-003	2.3500e-003		2.3500e-003	2.3500e-003	0.0000	33.6864	33.6864	6.5000e-004	6.2000e-004	33.8866
General Light Industry	6.23639e+006	0.0336	0.3057	0.2568	1.8300e-003		0.0232	0.0232		0.0232	0.0232	0.0000	332.7978	332.7978	6.3800e-003	6.1000e-003	334.7754
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0386	0.3506	0.2945	2.1000e-003		0.0266	0.0266		0.0266	0.0266	0.0000	381.6718	381.6718	7.3200e-003	7.0000e-003	383.9398

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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	24450	7.1128	3.2000e-004	7.0000e-005	7.1407
Fast Food Restaurant w/o Drive Thru	34764	10.1133	4.6000e-004	9.0000e-005	10.1529
Fast Food Restaurant with Drive Thru	86910	25.2831	1.1400e-003	2.4000e-004	25.3822
General Light Industry	2.6356e+006	766.7266	0.0347	7.1700e-003	769.7309
Parking Lot	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
Total		811.8016	0.0367	7.5900e-003	814.9825

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Convenience Market With Gas Pumps	24450	7.1128	3.2000e-004	7.0000e-005	7.1407
Fast Food Restaurant w/o Drive Thru	34764	10.1133	4.6000e-004	9.0000e-005	10.1529
Fast Food Restaurant with Drive Thru	86910	25.2831	1.1400e-003	2.4000e-004	25.3822
General Light Industry	2.6356e+006	766.7266	0.0347	7.1700e-003	769.7309
Parking Lot	8820	2.5658	1.2000e-004	2.0000e-005	2.5759
Total		811.8016	0.0367	7.5900e-003	814.9825

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003
Unmitigated	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-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	0.3551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e-004	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003
Total	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003

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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	0.3551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.1968					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	5.7000e-004	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003
Total	1.5525	5.0000e-005	4.3700e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	6.6800e-003	6.6800e-003	3.0000e-005	0.0000	7.4600e-003

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	133.4026	2.3010	0.0553	207.3921
Unmitigated	133.4026	2.3010	0.0553	207.3921

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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	0.0836574 / 0.0512739	0.2104	2.7300e-003	7.0000e-005	0.2985
Fast Food Restaurant w/o Drive Thru	0.36424 / 0.0232494	0.7126	0.0119	2.9000e-004	1.0952
Fast Food Restaurant with Drive Thru	0.910601 / 0.0581235	1.7815	0.0297	7.1000e-004	2.7379
General Light Industry	69.1021 / 0	130.6981	2.2566	0.0542	203.2605
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		133.4026	2.3010	0.0553	207.3921

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Annual

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	0.0836574 / 0.0512739	0.2104	2.7300e-003	7.0000e-005	0.2985
Fast Food Restaurant w/o Drive Thru	0.36424 / 0.0232494	0.7126	0.0119	2.9000e-004	1.0952
Fast Food Restaurant with Drive Thru	0.910601 / 0.0581235	1.7815	0.0297	7.1000e-004	2.7379
General Light Industry	69.1021 / 0	130.6981	2.2566	0.0542	203.2605
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		133.4026	2.3010	0.0553	207.3921

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	85.0370	5.0255	0.0000	210.6755
Unmitigated	85.0370	5.0255	0.0000	210.6755

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	13.82	2.8053	0.1658	0.0000	6.9501
Fast Food Restaurant with Drive Thru	34.56	7.0154	0.4146	0.0000	17.3803
General Light Industry	370.54	75.2163	4.4452	0.0000	186.3451
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		85.0370	5.0255	0.0000	210.6755

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Fast Food Restaurant w/o Drive Thru	13.82	2.8053	0.1658	0.0000	6.9501
Fast Food Restaurant with Drive Thru	34.56	7.0154	0.4146	0.0000	17.3803
General Light Industry	370.54	75.2163	4.4452	0.0000	186.3451
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		85.0370	5.0255	0.0000	210.6755

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Annual

Equipment Type	Number
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11.0 Vegetation

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

Hosking Avenue/South H Street Commercial Project - 2005

San Joaquin Valley Unified APCD Air District, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Operational run only

Vehicle Trips -

Energy Use - Using historical data

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	4/14/2006	12/23/2005
tblConstructionPhase	PhaseEndDate	2/17/2006	9/30/2005
tblConstructionPhase	PhaseEndDate	12/24/2004	11/26/2004
tblConstructionPhase	PhaseEndDate	3/17/2006	11/11/2005
tblConstructionPhase	PhaseEndDate	11/12/2004	10/15/2004
tblConstructionPhase	PhaseStartDate	3/18/2006	11/12/2005
tblConstructionPhase	PhaseStartDate	12/25/2004	11/27/2004
tblConstructionPhase	PhaseStartDate	11/13/2004	10/16/2004
tblConstructionPhase	PhaseStartDate	2/18/2006	10/1/2005
tblConstructionPhase	PhaseStartDate	10/30/2004	10/4/2004
tblEnergyUse	LightingElect	4.53	3.71
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	3.35	2.70
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	T24E	2.77	2.14
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	2.52	1.96
tblEnergyUse	T24NG	10.42	8.62
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	19.93	17.03

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tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50

2.0 Emissions Summary

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

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					
2004	15.6860	122.3105	79.9300	0.6870	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,423.3133	7,423.3133	1.4102	0.0000	7,458.1434
2005	237.9907	61.7515	52.4457	0.4609	1.5079	4.0453	5.5531	0.4083	4.0200	4.4282	0.0000	6,015.3680	6,015.3680	1.3178	0.0000	6,048.3116
Maximum	237.9907	122.3105	79.9300	0.6870	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,423.3133	7,423.3133	1.4102	0.0000	7,458.1434

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					
2004	15.6860	122.3105	79.9300	0.6870	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,423.3133	7,423.3133	1.4102	0.0000	7,458.1434
2005	237.9907	61.7515	52.4457	0.4609	1.5079	4.0453	5.5531	0.4083	4.0200	4.4282	0.0000	6,015.3680	6,015.3680	1.3178	0.0000	6,048.3116
Maximum	237.9907	122.3105	79.9300	0.6870	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,423.3133	7,423.3133	1.4102	0.0000	7,458.1434

[illegible]

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

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	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	85.1543	398.4433	620.0874	2.7465	25.4944	8.0660	33.5605	6.8563	7.7011	14.5574		58,738.9786	58,738.9786	17.8059		59,184.1254
Total	93.8756	400.3650	621.7497	2.7580	25.4944	8.2122	33.7066	6.8563	7.8473	14.7036		61,044.3814	61,044.3814	17.8504	0.0423	61,503.2371

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	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	85.1543	398.4433	620.0874	2.7465	25.4944	8.0660	33.5605	6.8563	7.7011	14.5574		58,738.9786	58,738.9786	17.8059		59,184.1254
Total	93.8756	400.3650	621.7497	2.7580	25.4944	8.2122	33.7066	6.8563	7.8473	14.7036		61,044.3814	61,044.3814	17.8504	0.0423	61,503.2371

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/4/2004	10/15/2004	5	10	
2	Grading	Grading	10/16/2004	11/26/2004	5	30	
3	Building Construction	Building Construction	11/27/2004	9/30/2005	5	220	
4	Paving	Paving	10/1/2005	11/11/2005	5	30	
5	Architectural Coating	Architectural Coating	11/12/2005	12/23/2005	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)

OffRoad Equipment

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.1 Mitigation Measures Construction**3.2 Site Preparation - 2004****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	11.2121	80.3160	30.7768	0.4499		5.0473	5.0473		5.0473	5.0473		4,409.753 7	4,409.753 7	1.0066		4,434.919 1
Total	11.2121	80.3160	30.7768	0.4499	18.0663	5.0473	23.1135	9.9307	5.0473	14.9780		4,409.753 7	4,409.753 7	1.0066		4,434.919 1

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	0.5073	0.5011	5.5320	2.9100e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		189.1843	189.1843	0.0342		190.0387
Total	0.5073	0.5011	5.5320	2.9100e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		189.1843	189.1843	0.0342		190.0387

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3.2 Site Preparation - 2004**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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	11.2121	80.3160	30.7768	0.4499		5.0473	5.0473		5.0473	5.0473	0.0000	4,409.753 7	4,409.753 7	1.0066		4,434.919 1
Total	11.2121	80.3160	30.7768	0.4499	18.0663	5.0473	23.1135	9.9307	5.0473	14.9780	0.0000	4,409.753 7	4,409.753 7	1.0066		4,434.919 1

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	0.5073	0.5011	5.5320	2.9100e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		189.1843	189.1843	0.0342		190.0387
Total	0.5073	0.5011	5.5320	2.9100e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		189.1843	189.1843	0.0342		190.0387

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.3 Grading - 2004**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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	15.1223	121.7537	61.5539	0.6838		6.4209	6.4209		6.4209	6.4209		7,213.1086	7,213.1086	1.3552		7,246.9893
Total	15.1223	121.7537	61.5539	0.6838	8.6733	6.4209	15.0943	3.5965	6.4209	10.0174		7,213.1086	7,213.1086	1.3552		7,246.9893

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	0.5637	0.5568	6.1466	3.2400e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		210.2047	210.2047	0.0380		211.1541
Total	0.5637	0.5568	6.1466	3.2400e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		210.2047	210.2047	0.0380		211.1541

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3.3 Grading - 2004**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	15.1223	121.7537	61.5539	0.6838		6.4209	6.4209		6.4209	6.4209	0.0000	7,213.1086	7,213.1086	1.3552		7,246.9893
Total	15.1223	121.7537	61.5539	0.6838	8.6733	6.4209	15.0943	3.5965	6.4209	10.0174	0.0000	7,213.1086	7,213.1086	1.3552		7,246.9893

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	0.5637	0.5568	6.1466	3.2400e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		210.2047	210.2047	0.0380		211.1541
Total	0.5637	0.5568	6.1466	3.2400e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		210.2047	210.2047	0.0380		211.1541

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3.4 Building Construction - 2004**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	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941		2,897.5468	2,897.5468	0.7833		2,917.1282
Total	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941		2,897.5468	2,897.5468	0.7833		2,917.1282

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	2.4364	19.3480	14.8519	0.1399	0.3660	0.6730	1.0390	0.1054	0.6438	0.7492		1,692.6870	1,692.6870	0.3630		1,701.7614
Worker	3.9178	3.8694	42.7191	0.0225	1.1419	0.0483	1.1902	0.3029	0.0448	0.3477		1,460.9228	1,460.9228	0.2639		1,467.5212
Total	6.3542	23.2175	57.5710	0.1624	1.5079	0.7213	2.2292	0.4083	0.6886	1.0969		3,153.6098	3,153.6098	0.6269		3,169.2826

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.4 Building Construction - 2004**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	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941	0.0000	2,897.5468	2,897.5468	0.7833		2,917.1282
Total	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941	0.0000	2,897.5468	2,897.5468	0.7833		2,917.1282

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	2.4364	19.3480	14.8519	0.1399	0.3660	0.6730	1.0390	0.1054	0.6438	0.7492		1,692.6870	1,692.6870	0.3630		1,701.7614
Worker	3.9178	3.8694	42.7191	0.0225	1.1419	0.0483	1.1902	0.3029	0.0448	0.3477		1,460.9228	1,460.9228	0.2639		1,467.5212
Total	6.3542	23.2175	57.5710	0.1624	1.5079	0.7213	2.2292	0.4083	0.6886	1.0969		3,153.6098	3,153.6098	0.6269		3,169.2826

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.4 Building Construction - 2005**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	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797		2,897.5468	2,897.5468	0.6762		2,914.4505
Total	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797		2,897.5468	2,897.5468	0.6762		2,914.4505

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.7768	18.3169	9.0384	0.1419	0.3660	0.5381	0.9041	0.1054	0.5148	0.6202		1,668.1010	1,668.1010	0.4574		1,679.5350
Worker	2.4172	1.9896	23.0191	0.0149	1.1419	0.0275	1.1694	0.3029	0.0255	0.3284		1,449.7202	1,449.7202	0.1842		1,454.3261
Total	4.1939	20.3065	32.0576	0.1568	1.5079	0.5656	2.0735	0.4083	0.5403	0.9486		3,117.8212	3,117.8212	0.6416		3,133.8611

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.4 Building Construction - 2005**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	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797	0.0000	2,897.5468	2,897.5468	0.6762		2,914.4505
Total	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797	0.0000	2,897.5468	2,897.5468	0.6762		2,914.4505

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.7768	18.3169	9.0384	0.1419	0.3660	0.5381	0.9041	0.1054	0.5148	0.6202		1,668.1010	1,668.1010	0.4574		1,679.5350
Worker	2.4172	1.9896	23.0191	0.0149	1.1419	0.0275	1.1694	0.3029	0.0255	0.3284		1,449.7202	1,449.7202	0.1842		1,454.3261
Total	4.1939	20.3065	32.0576	0.1568	1.5079	0.5656	2.0735	0.4083	0.5403	0.9486		3,117.8212	3,117.8212	0.6416		3,133.8611

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.5 Paving - 2005**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.7876	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382		2,656.5168	2,656.5168	0.5206		2,669.5304
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	5.9309	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382		2,656.5168	2,656.5168	0.5206		2,669.5304

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	0.2608	0.2147	2.4841	1.6100e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		156.4446	156.4446	0.0199		156.9417
Total	0.2608	0.2147	2.4841	1.6100e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		156.4446	156.4446	0.0199		156.9417

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.5 Paving - 2005**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.7876	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382	0.0000	2,656.5168	2,656.5168	0.5206		2,669.5304
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	5.9309	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382	0.0000	2,656.5168	2,656.5168	0.5206		2,669.5304

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	0.2608	0.2147	2.4841	1.6100e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		156.4446	156.4446	0.0199		156.9417
Total	0.2608	0.2147	2.4841	1.6100e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		156.4446	156.4446	0.0199		156.9417

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.6 Architectural Coating - 2005**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	236.7520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7518	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838		281.4481	281.4481	0.0679		283.1443
Total	237.5038	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838		281.4481	281.4481	0.0679		283.1443

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	0.4869	0.4008	4.6370	3.0000e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		292.0300	292.0300	0.0371		292.9578
Total	0.4869	0.4008	4.6370	3.0000e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		292.0300	292.0300	0.0371		292.9578

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

3.6 Architectural Coating - 2005**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	236.7520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7518	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838	0.0000	281.4481	281.4481	0.0679		283.1443
Total	237.5038	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838	0.0000	281.4481	281.4481	0.0679		283.1443

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	0.4869	0.4008	4.6370	3.0000e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		292.0300	292.0300	0.0371		292.9578
Total	0.4869	0.4008	4.6370	3.0000e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		292.0300	292.0300	0.0371		292.9578

4.0 Operational Detail - Mobile

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	85.1543	398.4433	620.0874	2.7465	25.4944	8.0660	33.5605	6.8563	7.7011	14.5574		58,738.9786	58,738.9786	17.8059		59,184.1254
Unmitigated	85.1543	398.4433	620.0874	2.7465	25.4944	8.0660	33.5605	6.8563	7.7011	14.5574		58,738.9786	58,738.9786	17.8059		59,184.1254

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	4,340.80	1,635.76	1335.04	1,890,810	1,890,810
Fast Food Restaurant w/o Drive Thru	859.20	835.20	600.00	1,320,279	1,320,279
Fast Food Restaurant with Drive Thru	1,488.36	2,166.09	1628.16	1,499,732	1,499,732
General Light Industry	2,082.78	394.44	203.20	4,592,622	4,592,622
Parking Lot	0.00	0.00	0.00		
Total	8,771.14	5,031.49	3,766.40	9,303,442	9,303,442

4.3 Trip Type Information

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant w/o Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant with Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
General Light Industry	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Parking Lot	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
NaturalGas Unmitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

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	87.9452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	691.792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1729.48	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.0879452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	0.691792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1.72948	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17.086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

6.0 Area Detail**6.1 Mitigation Measures Area**

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Unmitigated	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

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	1.9459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2800e-003	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Total	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

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	1.9459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2800e-003	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Total	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Summer

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

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

Equipment Type	Number
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11.0 Vegetation

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

Hosking Avenue/South H Street Commercial Project - 2005

San Joaquin Valley Unified APCD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	298.82	1000sqft	6.86	298,821.00	0
Parking Lot	63.00	Space	1.64	25,200.00	0
Fast Food Restaurant w/o Drive Thru	1.20	1000sqft	1.50	1,200.00	0
Fast Food Restaurant with Drive Thru	3.00	1000sqft	1.50	3,000.00	0
Convenience Market With Gas Pumps	8.00	Pump	1.50	3,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.7	Precipitation Freq (Days)	45
Climate Zone	3			Operational Year	2005
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The proposed project would include the development of various commercial uses, including 4,200 square feet of fast food restaurants with a drive-through, a 3,000 square foot convenience store with a gas station and car wash, and 6.86-acre mini-storage on a 13-acre project site.

Construction Phase - Operational run only

Vehicle Trips -

Energy Use - Using historical data

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	300.00	220.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	PhaseEndDate	4/14/2006	12/23/2005
tblConstructionPhase	PhaseEndDate	2/17/2006	9/30/2005
tblConstructionPhase	PhaseEndDate	12/24/2004	11/26/2004
tblConstructionPhase	PhaseEndDate	3/17/2006	11/11/2005
tblConstructionPhase	PhaseEndDate	11/12/2004	10/15/2004
tblConstructionPhase	PhaseStartDate	3/18/2006	11/12/2005
tblConstructionPhase	PhaseStartDate	12/25/2004	11/27/2004
tblConstructionPhase	PhaseStartDate	11/13/2004	10/16/2004
tblConstructionPhase	PhaseStartDate	2/18/2006	10/1/2005
tblConstructionPhase	PhaseStartDate	10/30/2004	10/4/2004
tblEnergyUse	LightingElect	4.53	3.71
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	7.47	6.17
tblEnergyUse	LightingElect	3.35	2.70
tblEnergyUse	LightingElect	0.88	0.35
tblEnergyUse	T24E	2.77	2.14
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	8.49	6.55
tblEnergyUse	T24E	2.52	1.96
tblEnergyUse	T24NG	10.42	8.62
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	39.04	35.72
tblEnergyUse	T24NG	19.93	17.03

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

tblLandUse	LandUseSquareFeet	1,129.40	3,000.00
tblLandUse	LotAcreage	0.57	1.64
tblLandUse	LotAcreage	0.03	1.50
tblLandUse	LotAcreage	0.07	1.50
tblLandUse	LotAcreage	0.03	1.50

2.0 Emissions Summary

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

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					
2004	15.6821	122.4256	77.9007	0.6867	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,401.414 1	7,401.414 1	1.4306	0.0000	7,436.173 7
2005	237.9762	62.6558	51.9205	0.4551	1.5079	4.0741	5.5820	0.4083	4.0476	4.4558	0.0000	5,803.644 3	5,803.644 3	1.3596	0.0000	5,837.633 8
Maximum	237.9762	122.4256	77.9007	0.6867	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,401.414 1	7,401.414 1	1.4306	0.0000	7,436.173 7

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					
2004	15.6821	122.4256	77.9007	0.6867	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,401.414 1	7,401.414 1	1.4306	0.0000	7,436.173 7
2005	237.9762	62.6558	51.9205	0.4551	1.5079	4.0741	5.5820	0.4083	4.0476	4.4558	0.0000	5,803.644 3	5,803.644 3	1.3596	0.0000	5,837.633 8
Maximum	237.9762	122.4256	77.9007	0.6867	18.2141	6.4279	23.2677	9.9699	6.4274	15.0230	0.0000	7,401.414 1	7,401.414 1	1.4306	0.0000	7,436.173 7

[illegible]

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

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	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	76.4259	404.2960	678.2974	2.5753	25.4944	9.0401	34.5345	6.8563	8.6330	15.4893		53,876.0580	53,876.0580	19.7298		54,369.3038
Total	85.1472	406.2177	679.9598	2.5868	25.4944	9.1862	34.6807	6.8563	8.7792	15.6355		56,181.4608	56,181.4608	19.7744	0.0423	56,688.4156

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	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Energy	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
Mobile	76.4259	404.2960	678.2974	2.5753	25.4944	9.0401	34.5345	6.8563	8.6330	15.4893		53,876.0580	53,876.0580	19.7298		54,369.3038
Total	85.1472	406.2177	679.9598	2.5868	25.4944	9.1862	34.6807	6.8563	8.7792	15.6355		56,181.4608	56,181.4608	19.7744	0.0423	56,688.4156

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	10/4/2004	10/15/2004	5	10	
2	Grading	Grading	10/16/2004	11/26/2004	5	30	
3	Building Construction	Building Construction	11/27/2004	9/30/2005	5	220	
4	Paving	Paving	10/1/2005	11/11/2005	5	30	
5	Architectural Coating	Architectural Coating	11/12/2005	12/23/2005	5	30	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 1.64

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 459,032; Non-Residential Outdoor: 153,011; Striped Parking Area: 1,512 (Architectural Coating – sqft)

OffRoad Equipment

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Excavators	2	8.00	158	0.38
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Paving	Pavers	2	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Paving Equipment	2	8.00	132	0.36
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Building Construction	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	139.00	54.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.1 Mitigation Measures Construction**3.2 Site Preparation - 2004****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	11.2121	80.3160	30.7768	0.4499		5.0473	5.0473		5.0473	5.0473		4,409.753 7	4,409.753 7	1.0066		4,434.919 1
Total	11.2121	80.3160	30.7768	0.4499	18.0663	5.0473	23.1135	9.9307	5.0473	14.9780		4,409.753 7	4,409.753 7	1.0066		4,434.919 1

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	0.5039	0.6047	5.0066	2.6200e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		169.4750	169.4750	0.0316		170.2660
Total	0.5039	0.6047	5.0066	2.6200e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		169.4750	169.4750	0.0316		170.2660

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.2 Site Preparation - 2004**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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	11.2121	80.3160	30.7768	0.4499		5.0473	5.0473		5.0473	5.0473	0.0000	4,409.753 7	4,409.753 7	1.0066		4,434.919 1
Total	11.2121	80.3160	30.7768	0.4499	18.0663	5.0473	23.1135	9.9307	5.0473	14.9780	0.0000	4,409.753 7	4,409.753 7	1.0066		4,434.919 1

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	0.5039	0.6047	5.0066	2.6200e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		169.4750	169.4750	0.0316		170.2660
Total	0.5039	0.6047	5.0066	2.6200e-003	0.1479	6.2600e-003	0.1541	0.0392	5.8000e-003	0.0450		169.4750	169.4750	0.0316		170.2660

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.3 Grading - 2004**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					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	15.1223	121.7537	61.5539	0.6838		6.4209	6.4209		6.4209	6.4209		7,213.1086	7,213.1086	1.3552		7,246.9893
Total	15.1223	121.7537	61.5539	0.6838	8.6733	6.4209	15.0943	3.5965	6.4209	10.0174		7,213.1086	7,213.1086	1.3552		7,246.9893

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	0.5599	0.6719	5.5629	2.9100e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		188.3056	188.3056	0.0352		189.1844
Total	0.5599	0.6719	5.5629	2.9100e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		188.3056	188.3056	0.0352		189.1844

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.3 Grading - 2004**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	15.1223	121.7537	61.5539	0.6838		6.4209	6.4209		6.4209	6.4209	0.0000	7,213.1086	7,213.1086	1.3552		7,246.9893
Total	15.1223	121.7537	61.5539	0.6838	8.6733	6.4209	15.0943	3.5965	6.4209	10.0174	0.0000	7,213.1086	7,213.1086	1.3552		7,246.9893

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	0.5599	0.6719	5.5629	2.9100e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		188.3056	188.3056	0.0352		189.1844
Total	0.5599	0.6719	5.5629	2.9100e-003	0.1643	6.9500e-003	0.1713	0.0436	6.4500e-003	0.0500		188.3056	188.3056	0.0352		189.1844

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2004**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	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941		2,897.5468	2,897.5468	0.7833		2,917.1282
Total	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941		2,897.5468	2,897.5468	0.7833		2,917.1282

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	2.6058	20.0404	16.8794	0.1358	0.3660	0.7180	1.0840	0.1054	0.6869	0.7923		1,646.9581	1,646.9581	0.4030		1,657.0334
Worker	3.8910	4.6700	38.6624	0.0202	1.1419	0.0483	1.1902	0.3029	0.0448	0.3477		1,308.7238	1,308.7238	0.2443		1,314.8317
Total	6.4968	24.7104	55.5418	0.1560	1.5079	0.7664	2.2742	0.4083	0.7317	1.1400		2,955.6819	2,955.6819	0.6473		2,971.8651

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2004**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	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941	0.0000	2,897.5468	2,897.5468	0.7833		2,917.1282
Total	8.7248	48.2620	22.3590	0.3041		3.7941	3.7941		3.7941	3.7941	0.0000	2,897.5468	2,897.5468	0.7833		2,917.1282

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	2.6058	20.0404	16.8794	0.1358	0.3660	0.7180	1.0840	0.1054	0.6869	0.7923		1,646.9581	1,646.9581	0.4030		1,657.0334
Worker	3.8910	4.6700	38.6624	0.0202	1.1419	0.0483	1.1902	0.3029	0.0448	0.3477		1,308.7238	1,308.7238	0.2443		1,314.8317
Total	6.4968	24.7104	55.5418	0.1560	1.5079	0.7664	2.2742	0.4083	0.7317	1.1400		2,955.6819	2,955.6819	0.6473		2,971.8651

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2005**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	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797		2,897.5468	2,897.5468	0.6762		2,914.4505
Total	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797		2,897.5468	2,897.5468	0.6762		2,914.4505

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.8810	18.8248	10.6850	0.1378	0.3660	0.5670	0.9330	0.1054	0.5424	0.6478		1,622.0290	1,622.0290	0.5136		1,634.8678
Worker	2.3453	2.3860	20.8473	0.0132	1.1419	0.0275	1.1694	0.3029	0.0255	0.3284		1,284.0686	1,284.0686	0.1699		1,288.3156
Total	4.2262	21.2108	31.5323	0.1510	1.5079	0.5944	2.1023	0.4083	0.5679	0.9762		2,906.0975	2,906.0975	0.6834		2,923.1833

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.4 Building Construction - 2005**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	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797	0.0000	2,897.5468	2,897.5468	0.6762		2,914.4505
Total	7.5157	41.4450	20.3882	0.3041		3.4797	3.4797		3.4797	3.4797	0.0000	2,897.5468	2,897.5468	0.6762		2,914.4505

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	1.8810	18.8248	10.6850	0.1378	0.3660	0.5670	0.9330	0.1054	0.5424	0.6478		1,622.0290	1,622.0290	0.5136		1,634.8678
Worker	2.3453	2.3860	20.8473	0.0132	1.1419	0.0275	1.1694	0.3029	0.0255	0.3284		1,284.0686	1,284.0686	0.1699		1,288.3156
Total	4.2262	21.2108	31.5323	0.1510	1.5079	0.5944	2.1023	0.4083	0.5679	0.9762		2,906.0975	2,906.0975	0.6834		2,923.1833

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.5 Paving - 2005**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.7876	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382		2,656.5168	2,656.5168	0.5206		2,669.5304
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	5.9309	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382		2,656.5168	2,656.5168	0.5206		2,669.5304

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	0.2531	0.2575	2.2497	1.4300e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		138.5686	138.5686	0.0183		139.0269
Total	0.2531	0.2575	2.2497	1.4300e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		138.5686	138.5686	0.0183		139.0269

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.5 Paving - 2005**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.7876	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382	0.0000	2,656.5168	2,656.5168	0.5206		2,669.5304
Paving	0.1432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	5.9309	41.6658	17.9954	0.2697		2.6382	2.6382		2.6382	2.6382	0.0000	2,656.5168	2,656.5168	0.5206		2,669.5304

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	0.2531	0.2575	2.2497	1.4300e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		138.5686	138.5686	0.0183		139.0269
Total	0.2531	0.2575	2.2497	1.4300e-003	0.1232	2.9700e-003	0.1262	0.0327	2.7500e-003	0.0354		138.5686	138.5686	0.0183		139.0269

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.6 Architectural Coating - 2005**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	236.7520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7518	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838		281.4481	281.4481	0.0679		283.1443
Total	237.5038	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838		281.4481	281.4481	0.0679		283.1443

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	0.4724	0.4806	4.1995	2.6600e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		258.6613	258.6613	0.0342		259.5168
Total	0.4724	0.4806	4.1995	2.6600e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		258.6613	258.6613	0.0342		259.5168

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

3.6 Architectural Coating - 2005**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	236.7520					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.7518	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838	0.0000	281.4481	281.4481	0.0679		283.1443
Total	237.5038	4.2819	2.0781	0.0297		0.3838	0.3838		0.3838	0.3838	0.0000	281.4481	281.4481	0.0679		283.1443

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	0.4724	0.4806	4.1995	2.6600e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		258.6613	258.6613	0.0342		259.5168
Total	0.4724	0.4806	4.1995	2.6600e-003	0.2300	5.5400e-003	0.2356	0.0610	5.1400e-003	0.0662		258.6613	258.6613	0.0342		259.5168

4.0 Operational Detail - Mobile

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	76.4259	404.2960	678.2974	2.5753	25.4944	9.0401	34.5345	6.8563	8.6330	15.4893		53,876.05 80	53,876.05 80	19.7298		54,369.30 38
Unmitigated	76.4259	404.2960	678.2974	2.5753	25.4944	9.0401	34.5345	6.8563	8.6330	15.4893		53,876.05 80	53,876.05 80	19.7298		54,369.30 38

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Convenience Market With Gas Pumps	4,340.80	1,635.76	1335.04	1,890,810	1,890,810
Fast Food Restaurant w/o Drive Thru	859.20	835.20	600.00	1,320,279	1,320,279
Fast Food Restaurant with Drive Thru	1,488.36	2,166.09	1628.16	1,499,732	1,499,732
General Light Industry	2,082.78	394.44	203.20	4,592,622	4,592,622
Parking Lot	0.00	0.00	0.00		
Total	8,771.14	5,031.49	3,766.40	9,303,442	9,303,442

4.3 Trip Type Information

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	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	9.50	7.30	7.30	0.80	80.20	19.00	14	21	65
Fast Food Restaurant w/o Drive	9.50	7.30	7.30	1.50	79.50	19.00	51	37	12
Fast Food Restaurant with Drive	9.50	7.30	7.30	2.20	78.80	19.00	29	21	50
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Convenience Market With Gas Pumps	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant w/o Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Fast Food Restaurant with Drive Thru	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
General Light Industry	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989
Parking Lot	0.419110	0.063099	0.152111	0.182171	0.043370	0.007308	0.023041	0.098286	0.001486	0.001644	0.005352	0.001034	0.001989

5.0 Energy Detail

Historical Energy Use: Y

5.1 Mitigation Measures Energy

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203
NaturalGas Unmitigated	0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

Hosking Avenue/South H Street Commercial Project - 2005 - San Joaquin Valley Unified APCD Air District, Winter

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	87.9452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	691.792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1729.48	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

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5.2 Energy by Land Use - NaturalGas**Mitigated**

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Convenience Market With Gas Pumps	0.0879452	9.5000e-004	8.6200e-003	7.2400e-003	5.0000e-005		6.6000e-004	6.6000e-004		6.6000e-004	6.6000e-004		10.3465	10.3465	2.0000e-004	1.9000e-004	10.4080
Fast Food Restaurant w/o Drive Thru	0.691792	7.4600e-003	0.0678	0.0570	4.1000e-004		5.1500e-003	5.1500e-003		5.1500e-003	5.1500e-003		81.3873	81.3873	1.5600e-003	1.4900e-003	81.8709
Fast Food Restaurant with Drive Thru	1.72948	0.0187	0.1696	0.1424	1.0200e-003		0.0129	0.0129		0.0129	0.0129		203.4682	203.4682	3.9000e-003	3.7300e-003	204.6773
General Light Industry	17.086	0.1843	1.6751	1.4071	0.0101		0.1273	0.1273		0.1273	0.1273		2,010.1190	2,010.1190	0.0385	0.0369	2,022.0642
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.2113	1.9211	1.6137	0.0115		0.1460	0.1460		0.1460	0.1460		2,305.3210	2,305.3210	0.0442	0.0423	2,319.0203

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Unmitigated	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

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	1.9459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2800e-003	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Total	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

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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	1.9459					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	6.5578					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	6.2800e-003	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914
Total	8.5100	5.8000e-004	0.0486	0.0000		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004		0.0819	0.0819	3.8000e-004		0.0914

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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11.0 Vegetation
