AIR QUALITY IMPACT ANALYSIS

FOR

CITY OF FOWLER GENERAL PLAN UPDATE

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TABLE OF CONTENTS

List of Tables

List of Figures

Appendices

LIST OF COMMON TERMS & ACRONYMS

AHERA	Asbestos Hazard Emergency Response Act
ATCM	Airborne Toxic Control Measure
CAAQS	California Ambient Air Quality Standards
ARB	California Air Resources Board
CCAA	California Clean Air Act
CCAR	California Climate Action Registry
CEQA	California Environmental Quality Act
CH_4	Methane
CO	Carbon Monoxide
DPM	Diesel-Exhaust Particulate Matter or Diesel-Exhaust PM
DRRP	Diesel Risk Reduction Plan
FCAA	Federal Clean Air Act
HAP	Hazardous Air Pollutant
IPCC	Intergovernmental Panel on Climate Change
LOS	Level of Service
NAAQS	National Ambient Air Quality Standards
NESHAPs	National Emission Standards for HAPs
NO_x	Oxides of Nitrogen
O_3	Ozone
Pb	Lead
PM	Particulate Matter
PM_{10}	Particulate Matter (less than 10 µm)
$PM_{2.5}$	Particulate Matter (less than 2.5 µm)
ppb	Parts per Billion
ppm	Parts per Million
ROG	Reactive Organic Gases
SCAQMD	South Coast Air Quality Management District
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SO_2	Sulfur Dioxide
SRTS	Safe Routes to School
TAC	Toxic Air Contaminant
TSCA	Toxic Substances Control Act
$\mu g/m^3$	Micrograms per cubic meter
U.S. EPA	United State Environmental Protection Agency

INTRODUCTION

This report provides a summary of important laws, regulations, and guidance documents relevant to air quality and land use planning in California and Fowler; an overview of existing air quality issues and conditions; a description of local and regional air quality issues and programs; and a summary of findings. The findings from this analysis will inform the development of goals and policies in the City's General Plan Update (GPU).

PROPOSED CITY OF FOWLER GENERAL PLAN UPDATE

The City of Fowler adopted its first General Plan in 1976. The currently adopted General Plan was adopted in June 2004 and runs through 2025. Since its adoption, the General Plan has been revised and amended but has not been comprehensively updated. The proposed GPU will include updates to represent changes in community conditions, new legislation, new regulatory requirements and planning practices, and updates regarding new social and environmental issues. The GPU will be updated to provide a planning horizon of year 2040. The City of Fowler's city limits, sphere of influence, and planning area are depicted in Figure 1.

AIR QUALITY BACKGROUND

Geography

The City of Fowler is located within the San Joaquin Valley Air Basin (SJVAB). The SJVAB is within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD). Air quality in the SJVAB is influenced by a variety of factors, including topography, local and regional meteorology. Factors affecting regional and local air quality are discussed below.

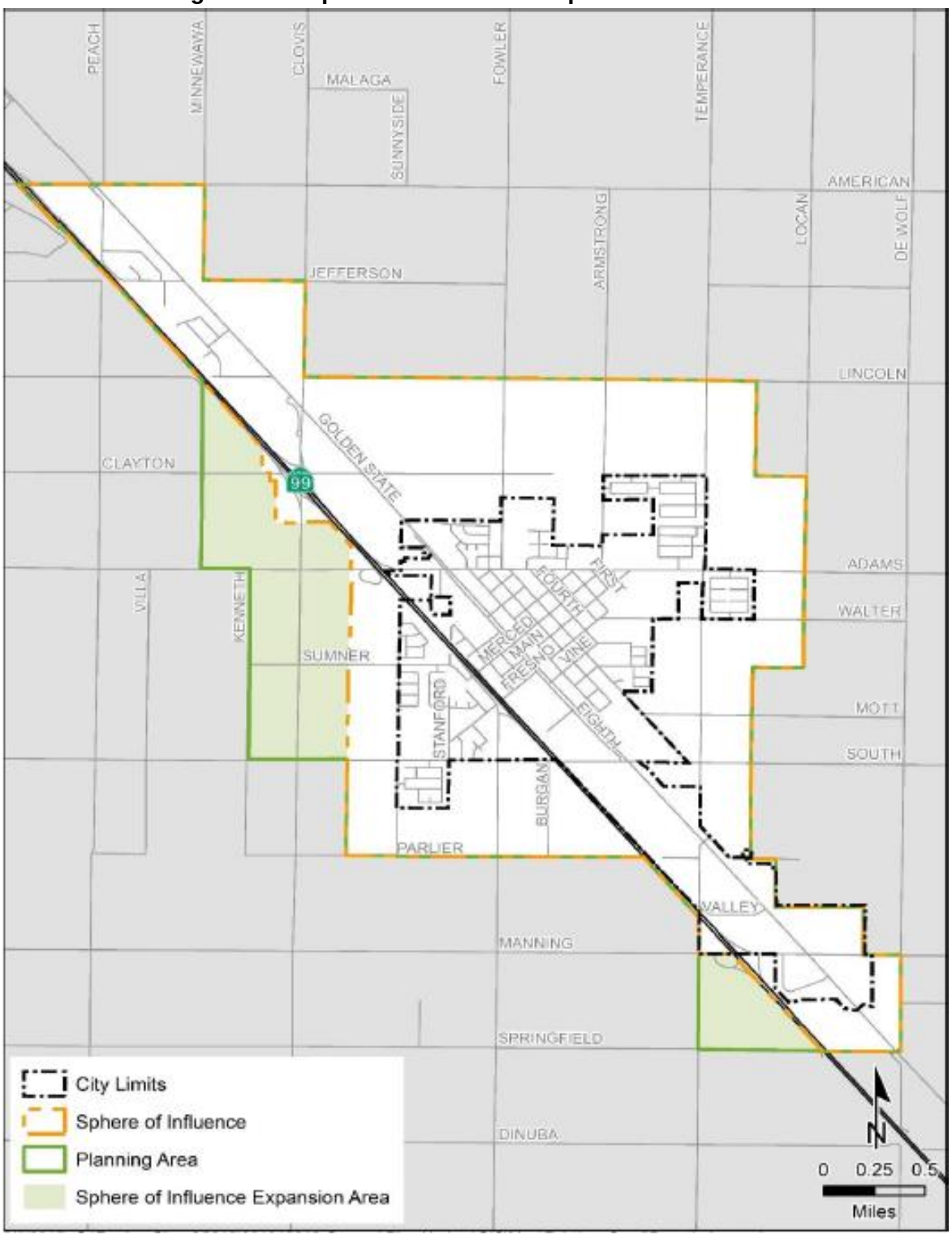
Climate Meteorology, Topography, and Pollutant Dispersion

The SJVAB, in which the City of Fowler is situated, has an inland Mediterranean climate characterized by warm, dry summers and cooler winters. Summer temperatures often exceed 100 degrees Fahrenheit (°F) and can vary as much as 30°F. Winters are for the most part mild and humid, with average high in the 50s, while the average daily low temperature is approximately 45°F.

The vertical dispersion of air pollutants in the Valley is limited by the presence of persistent temperature inversions. Air temperature usually decreases as altitude increases. A reversal of this atmospheric state, where the air temperature increases with height, is termed an inversion. Air above and below an inversion does not mix because of differences in air density thereby restricting air pollutant dispersal.

Wind speed and direction play an important role in the dispersion and transport of air pollutants. During summer periods, winds typically originate from the northern San Joaquin Valley and flow in a south-southeasterly direction through the Valley, down through the Tehachapi Pass and into the neighboring Southeast Desert Air Basin. During winter months, winds occasionally originate in the opposite direction, from the south end of the Valley and flow in a north-northwesterly direction. Also, during winter months,

Figure 1. Proposed General Plan Update Focus Areas



Source: City of Fowler Community Report 2021

the Valley experiences light, variable winds, less than 10 miles per hour. Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high concentrations of certain air pollutants.

The SJVAB is basically a flat area bordered on the east by the Sierra Nevada Mountains; on the west by the Coast Ranges; and to the south by the Tehachapi Mountains. Airflow in the SJVAB is primarily influenced by marine air that enters through the Carquinez Straits where the San Joaquin-Sacramento Delta empties into the San Francisco Bay. The region's topographic features restrict air movement through and out of the basin. As a result, the SJVAB is highly susceptible to pollutant accumulation over time. Frequent transport of pollutants into the SJVAB from upwind sources also contributes to poor air quality. The climate is semi-arid, with an annual normal precipitation of approximately 11 inches. Temperatures in the project area range from an average minimum of approximately 38°F, in January, to an average maximum of 98°F, in July (WRCC 2018).

Air Pollutants of Primary Concern

Criteria Air Pollutants

For the protection of public health and welfare, the Federal Clean Air Act (FCAA) required that the United States Environmental Protection Agency (U.S. EPA) establish National Ambient Air Quality Standards (NAAQS) for various pollutants. These pollutants are referred to as "criteria" pollutants because the U.S. EPA publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as one hour, eight hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. Standards established for the protection of human health are referred to as primary standards; whereas, standards established for the prevention of environmental and property damage are called secondary standards. The FCAA allows states to adopt additional or more health-protective standards. The following provides a summary discussion of the criteria air pollutants of primary concern.

Ozone (O_3) is a reactive gas consisting of three atoms of oxygen. In the troposphere, it is a product of the photochemical process involving the sun's energy. It is a secondary pollutant that is formed when oxides of nitrogen (NO_X) and volatile organic compounds (VOC), also referred to as reactive organic gases (ROG) react in the presence of sunlight. Ozone at the earth's surface causes numerous adverse health effects and is a criteria pollutant. It is a major component of smog. In the stratosphere, ozone exists naturally and shields Earth from harmful incoming ultraviolet radiation.

High concentrations of ground level ozone can adversely affect the human respiratory system and aggravate cardiovascular disease and many respiratory ailments. Ozone also damages natural ecosystems such as forests and foothill communities, agricultural crops, and some man-made materials, such as rubber, paint, and plastics.

Reactive Organic Gas (ROG) is a reactive chemical gas, composed of hydrocarbon compounds that may contribute to the formation of smog by their involvement in atmospheric chemical reactions. No separate health standards exist for ROG as a group. Because some compounds that make up ROG are also toxic, like the carcinogen benzene, they are often evaluated as part of a toxic risk assessment. Total Organic Gases (TOGs) includes all of the ROGs, in addition to low reactivity organic compounds like methane and acetone. ROGs and VOC are subsets of TOG.

Volatile Organic Compounds (VOC) are hydrocarbon compounds that exist in the ambient air. VOCs contribute to the formation of smog and may also be toxic. VOC emissions are a major precursor to the formation of ozone. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints.

Oxides of Nitrogen (NO_X) are a family of gaseous nitrogen compounds and is a precursor to the formation of ozone and particulate matter. The major component of NO_X, nitrogen dioxide (NO_2), is a reddish-brown gas that is toxic at high concentrations. NO_X results primarily from the combustion of fossil fuels under high temperature and pressure. On-road and off-road motor vehicles and fuel combustion are the major sources of this air pollutant.

Particulate Matter (PM), also known as particle pollution, is a complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. The size of particles is directly linked to their potential for causing health problems. U.S. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects. U.S. EPA groups particle pollution into three categories based on their size and where they are deposited:

- "Inhalable coarse particles (PM_{10})," such as those found near roadways and dusty industries, are between 2.5 and 10 micrometers in diameter. $PM_{2.5\text{-}10}$ is deposited in the thoracic region of the lungs.
- "Fine particles ($PM_{2.5}$)," such as those found in smoke and haze, are 2.5 micrometers in diameter and smaller. These particles can be directly emitted from sources such as forest fires, or they can form when gases emitted from power plants, industries and automobiles react in the air. They penetrate deeply into the thoracic and alveolar regions of the lungs.
- “Ultrafine particles (UFP),” are very small particles less than 0.1 micrometers in diameter largely resulting from the combustion of fossils fuels, meat, wood and other hydrocarbons. While UFP mass is a small portion of $PM_{2.5}$, its high surface area, deep lung penetration, and transfer into the bloodstream can result in disproportionate health impacts relative to their mass.

PM_{10}, $PM_{2.5}$, and UFP include primary pollutants (emitted directly to the atmosphere) as well as secondary pollutants (formed in the atmosphere by chemical reactions among precursors). Generally speaking, $PM_{2.5}$ and UFP are emitted by combustion sources like vehicles, power generation, industrial processes, and wood burning, while PM_{10} sources include these same sources plus roads and farming activities. Fugitive windblown dust and other area sources also represent a source of airborne dust.

Numerous scientific studies have linked both long- and short-term particle pollution exposure to a variety of health problems. Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis and even premature death. Short-term exposures to particles (hours or days) can aggravate lung disease, causing asthma attacks and also acute (short-term) bronchitis, and may also increase susceptibility to respiratory infections. In people with heart disease, short-term exposures have been linked to heart attacks and arrhythmias. Healthy children and adults have not been

reported to suffer serious effects from short term exposures, although they may experience temporary minor irritation when particle levels are elevated.

Carbon Monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels and is emitted directly into the air (unlike ozone). The main source of CO is on-road motor vehicles. Other CO sources include other mobile sources, miscellaneous processes, and fuel combustion from stationary sources. Because of the local nature of CO problems, California Air Resources Board (ARB) and U.S. EPA designate urban areas as CO nonattainment areas instead of the entire basin as with ozone and PM_{10}. Motor vehicles are by far the largest source of CO emissions. Emissions from motor vehicles have been declining since 1985, despite increases in vehicle miles traveled, with the introduction of new automotive emission controls and fleet turnover.

Sulfur Dioxide (SO_2) is a colorless, irritating gas with a "rotten egg" smell formed primarily by the combustion of sulfur-containing fossil fuels. However, like airborne NO_X, suspended sulfur oxides (SO_X) particles contribute to the poor visibility. These SO_X particles can also combine with other pollutants to form $PM_{2.5}$. The prevalence of low-sulfur fuel use has minimized problems from this pollutant.

Lead (Pb) is a metal that is a natural constituent of air, water, and the biosphere. Lead is neither created nor destroyed in the environment, so it essentially persists forever. The health effects of lead poisoning include loss of appetite, weakness, apathy, and miscarriage. Lead can also cause lesions of the neuromuscular system, circulatory system, brain, and gastrointestinal tract. Gasoline-powered automobile engines were a major source of airborne lead through the use of leaded fuels. The use of leaded fuel has been mostly phased out, with the result that ambient concentrations of lead have dropped dramatically.

Hydrogen Sulfide (H_2S) is associated with geothermal activity, oil and gas production, refining, sewage treatment plants, and confined animal feeding operations. Hydrogen sulfide is extremely hazardous in high concentrations; especially in enclosed spaces (800 ppm can cause death). Occupational Safety and Health Administration (OSHA) regulates workplace exposure to H_2S.

Other Pollutants

The State of California has established air quality standards for some pollutants not addressed by Federal standards. The ARB has established State standards for hydrogen sulfide, sulfates, vinyl chloride, and visibility reducing particles. The following section summarizes these pollutants and provides a description of the pollutants' physical properties, health and other effects, sources, and the extent of the problems.

Sulfates (SO_4^{2-}) are the fully oxidized ionic form of sulfur. Sulfates occur in combination with metal and/or hydrogen ions. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features.

The ARB sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilator function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in

degrading visibility, and, due to the fact that they are usually acidic, can harm ecosystems and damage materials and property.

Visibility Reducing Particles: Are a mixture of suspended particulate matter consisting of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Vinyl Chloride (C_2H_3Cl or **VCM)** is a colorless gas that does not occur naturally. It is formed when other substances such as trichloroethane, trichloroethylene, and tetrachloro-ethylene are broken down. Vinyl chloride is used to make polyvinyl chloride which is used to make a variety of plastic products, including pipes, wire and cable coatings, and packaging materials.

Odors

Typically odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from the psychological (i.e. irritation, anger, or anxiety) to the physiological, including circulatory and respiratory effects, nausea, vomiting, and headache.

The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell very minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor and in fact an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word strong to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Toxic Air Contaminants

Toxic air contaminants (TACs) are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air, but due to their high toxicity, they may pose a threat to public health even at very low concentrations (EPA 1991). Because there is no threshold level below which adverse health impacts are not expected to occur, TACs differ from criteria pollutants for which acceptable levels of exposure can be determined and for which state and federal governments have set ambient air quality standards. TACs, therefore, are not considered "criteria pollutants" under either the FCAA or the California

Clean Air Act (CCAA), and are thus not subject to National or State AAQS. TACs are not considered criteria pollutants in that the federal and California Clean Air Acts do not address them specifically through the setting of National or State AAQS. Instead, the U.S. EPA and ARB regulate Hazardous Air Pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with District rules, these federal and state statutes and regulations establish the regulatory framework for TACs. At the national levels, the U.S. EPA has established National Emission Standards for HAPs (NESHAPs), in accordance with the requirements of the FCAA and subsequent amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

Within California, TACs are regulated primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

At the state level, the ARB has authority for the regulation of emissions from motor vehicles, fuels, and consumer products. Most recently, Diesel-exhaust particulate matter (DPM) was added to the ARB list of TACs. DPM is the primary TACs of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk. The ARB has made the reduction of the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles (ARB 2005).

At the local level, air districts have the authority over stationary or industrial sources. All projects that require air quality permits from the South Coast Air Quality Management District (SCAQMD) are evaluated for TAC emissions. The SCAQMD limits emissions and public exposure to TACs through a number of programs. The SCAQMD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The SCAQMD requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to AB 2588.

Land Use Compatibility with TAC Emission Sources

The ARB published an informational guide entitled: *Air Quality and Land Use Handbook: A Community Health Perspective* (Handbook) in 2005. The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the placement of sensitive land uses near major sources of air pollution. The ARB's Handbook includes recommended separation distances for various land uses that are based on relatively conservative estimations of emissions based on source-specific information. However, these recommendations are not site specific and should not be interpreted as defined "buffer zones". It is also important to note that the recommendations of the Handbook are advisory and need to be balanced with other State and local policies (ARB 2005). Depending on site and project-specific conditions, an assessment of potential increases in exposure to TACs may be warranted for proposed development projects located within the distances identified. ARB-recommended separation distances for various sources of emissions are summarized in Table 1.

Table 1. Recommendations on Siting New Sensitive Land Uses Near Air Pollutant Sources

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks.
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

Recommendations are advisory, are not site specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements.
Source: ARB 2005

Sensitive Receptors

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed "sensitive receptors." The term “sensitive receptors” refers to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Commonly identified sensitive land uses would include facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Residential dwellings, schools, parks, playgrounds, childcare centers, convalescent homes, and hospitals are examples of sensitive land uses. Sensitive land uses within the City of Fowler consist predominantly of residential land uses, schools, and community parks.

Ambient Air Quality

Air pollutant concentrations are measured at several monitoring stations in the SJVAB. The Fresno-Drummond Street monitoring station is the closest representative monitoring station with sufficient data to meet U.S. EPA and/or ARB criteria for quality assurance. The Fresno-Drummond Street monitoring station monitors ambient concentrations of ozone, NO_2, and PM_{10}. The Fresno-Hamilton and Winery monitoring station is the closest station monitoring $PM_{2.5}$. Ambient monitoring data were obtained for the last three years of available measurement data (i.e., 2019 through 2021) and are summarized in Table

2. As depicted, the state and federal ozone and $PM_{2.5}$, and PM_{10} standards were exceeded on numerous occasions during the past 3 years.

Table 2. Summary of Ambient Air Quality Monitoring Data

Pollutant	Monitoring Year		
	2019	2020	2021
Ozone[1]			
Maximum concentration (1-hour/8-hour average)	0.099/0.080	0.123/0.091	0.125/0.099
Number of days state/national 1-hour standard exceeded	1/0	11/0	9/1
Number of days 2008 national/2015 national 8-hour standard exceeded	2/10	14/27	16/39
Nitrogen Dioxide (NO_2)[1]			
Maximum concentration (1-hour average)	42.3	66.8	64.5
Annual average	NA	NA	11
Number of days state/national standard exceeded	0/0	0/0	0/0
Suspended Particulate Matter ($PM_{2.5}$)[2]			
Maximum concentration (national/state)	44.7/44.7	143.3/143.3	81.3/81.3
Annual Average (national/state)	11.2/NA	18.5/NA	13.7/NA
Number of days national standard exceeded (measured/calculated)	3/9.3	13/39.3	27/27.7
Suspended Particulate Matter (PM_{10})[1]			
Maximum concentration (national/state)	175.6/181.3	350.4/349.2	151.8/149.8
Number of days state standard exceeded (measured/calculated)	13/78.3	25/NA	20/NA
Number of days national standard exceeded (measured/calculated)	1/6.1	1/5.8	0/NA

ppm = parts per million by volume, µg/m^3 = micrograms per cubic meter, NA=Not Available

1. *Based on ambient concentrations obtained from the Fresno-Drummond Street Monitoring Station.*
2. *Based on ambient concentrations obtained from the Fresno-Hamilton and Winery Monitoring Station*
2. *Measured days are those days that an actual measurement was greater than the standard. Calculated days are estimated days that a measurement would have exceeded the standard had measurements been collected every day.*

Source: ARB 2022a

REGULATORY SETTING

Air quality within the project area is regulated by several jurisdictions including the U.S. EPA, ARB, and the SJVAPCD. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although U.S. EPA regulations may not be superseded, both state and local regulations may be more stringent.

Federal

U.S. Environmental Protection Agency

At the federal level, the U.S. EPA has been charged with implementing national air quality programs. The U.S. EPA's air quality mandates are drawn primarily from the FCAA, which was signed into law in 1970. Congress substantially amended the FCAA in 1977 and again in 1990.

Federal Clean Air Act

The FCAA was first signed into law in 1970. In 1977, Congress added several provisions, including nonattainment requirements for areas not meeting NAAQS and the Prevention of Significant

Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, State attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions. The EPA is responsible for administering the FCAA. NAAQS are summarized in Table 3.

Toxic Substances Control Act

The Toxic Substances Control Act first authorized the U.S. EPA to regulate asbestos in schools and Public and Commercial buildings under Title II of the law, which is also known as the Asbestos Hazard Emergency Response Act (AHERA). AHERA requires Local Education Agencies to inspect their schools for asbestos-containing building materials (ACBM) and to prepare management plans to reduce the asbestos hazard. The Act also established a program for the training and accreditation of individuals performing certain types of asbestos work.

National Emission Standards for Hazardous Air Pollutants

Pursuant to the FCAA of 1970, the U.S. EPA established the NESHAPs. These are technology-based source-specific regulations that limit allowable emissions of HAPs. Among these sources include ACBM. NESHAPs include requirements pertaining to the inspection, notification, handling, and disposal of ACBM associated with the demolition and renovation of structures.

State

California Air Resources Board

The ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing the California Ambient Air Quality Standards (CAAQS), which in many cases are more stringent than the NAAQS, and setting emissions standards for new motor vehicles. The CAAQS are summarized in Table 3. The emission standards established for motor vehicles differ depending on various factors including the model year, and the type of vehicle, fuel and engine used.

Table 3. Summary of Ambient Air Quality Standards & Attainment Designations

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Primary	Attainment Status
Ozone (O_3)	1-hour	0.09 ppm	Non-Attainment	–	Non-Attainment
	8-hour	0.070 ppm		0.070 ppm	
Particulate Matter (PM_{10})	AAM	20 µg/m3	Non-Attainment	–	Attainment
	24-hour	50 µg/m3		150 µg/m3	
Fine Particulate Matter ($PM_{2.5}$)	AAM	12 µg/m3	Non-Attainment	12 µg/m3	Non-Attainment
	24-hour	No Standard		35 µg/m3	
Carbon Monoxide (CO)	1-hour	20 ppm	Unclassified/ Attainment	35 ppm	Unclassified/ Attainment
	8-hour	9 ppm		9 ppm	
Nitrogen Dioxide (NO_2)	AAM	0.030 ppm	Attainment	0.053 ppm	Unclassified/ Attainment
	1-hour	0.18 ppm		0.100 ppb[b]	
Sulfur Dioxide (SO_2)	AAM	–	Attainment	0.03 ppm	Unclassified/ Attainment
	24-hour	0.04 ppm		0.14 ppm	
	3-hour	–		--	
	1-hour	0.25 ppm		75 ppb	
Lead	30-day Average	1.5 µg/m3	Attainment	–	No Designation/ Classification
	Calendar Quarter	–		1.5 µg/m3	
	Rolling 3-Month Average	–		0.15 µg/m3	
Sulfates	24-hour	25 µg/m3	Attainment	No Federal Standards	
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m3)	Unclassified		
Vinyl Chloride	24-hour	0.01 ppm (26 µg/m3)	Attainment		
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient: 0.23/kilometer-visibility of 10 miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when the relative humidity is less than 70%.	Unclassified		

Source: SJVAPCD 2022

California Clean Air Act

The CCAA requires that all air districts in the state endeavor to achieve and maintain CAAQS for Ozone, CO, SO_2, and NO_2 by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive 3-year periods, in district-wide emissions of each non-attainment pollutant or its precursors, or (2) to provide for implementation of all feasible measures

to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Assembly Bill 170

Requires cities and counties in the Valley to incorporate strategies to improve air quality in their general planning efforts.

Senate Bill 709

Gave the Air District more responsibility in terms of permitting, fee implementation, and agricultural assistance, but also gives the air district the authority to require the use of best available control technology (BACT) for existing sources, promote cleaner-burning alternative fuels, and encourage and facilitate ridesharing. It also allows the air district to adopt a surcharge on motor vehicle registration fees in counties within the air district.

Senate Bill 656 (Chapter 738, Statutes of 2003)

In 2003, the California Legislature enacted Senate Bill (SB) 656 (Chapter 738, Statutes of 2003), codified as Health and Safety Code Section 39614, to reduce public exposure to PM_{10} and $PM_{2.5}$. SB 656 required ARB, in consultation with local air pollution control and air quality management districts (air districts), to develop and adopt, by January 1, 2005, a list of the most readily available, feasible, and cost-effective control measures that could be employed by ARB and the air districts to reduce PM_{10} and $PM_{2.5}$ (collectively referred to as PM). The legislation established a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$ and provided new direction on PM reductions in those areas not subject to federal requirements for PM. Measures adopted as part of SB 656 complement and support those required for federal $PM_{2.5}$ attainment plans, as well as for State ozone plans. This ensures continuing focus on PM reduction and progress towards attaining California's more health protective standards. This list of air district control measures was adopted by ARB on November 18, 2004. ARB also developed a list of State PM control measures for mobile and stationary sources, including measures planned for adoption as part of ARB's Diesel Risk Reduction Plan.

Assembly Bills 1807 & 2588 - Toxic Air Contaminants

Within California, TACs are regulated primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for ARB to designate substances as TACs. This includes research, public participation, and scientific peer review before ARB designates a substance as a TAC. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

In-Use Off-Road Diesel Vehicle Regulation

On July 26, 2007, the ARB adopted a regulation to reduce DPM and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. The regulation applies to self-propelled diesel-fueled vehicles that cannot be registered and licensed to drive on-road, as well as two-engine vehicles that drive on road, with the limited exception of two-engine sweepers. Examples include loaders, crawler tractors, skid steers, backhoes, forklifts, airport ground support equipment, water well drilling rigs, and two-engine cranes. Such vehicles are used in construction, mining, and industrial operations. The regulation does not

apply to stationary equipment or portable equipment such as generators. The off-road vehicle regulation, establishes emissions performance requirements, establishes reporting, disclosure, and labeling requirements for off-road vehicles, and limits unnecessary idling.

Advanced Clean Cars II

In August 2022, ARB approved the Advanced Clean Cars II program. The rule establishes a year-by-year roadmap so that by 2035 100% of new cars and light trucks sold in California will be zero-emission vehicles, including plug-in hybrid electric vehicles. Beginning in model year 2026 automakers sales of new vehicles will be required to be made up of 35% ZEVs and PHEVs. The regulation applies to automakers and covers only new vehicle sales. It does not impact existing vehicles on the road today, which will still be legal to own and drive (ARB 2022b).

Small Off-Road Engines

In December 2021, ARB approved the Small Off-Road Engines regulation. This will require most newly manufactured small off-road engines such as those found in leaf blowers, lawn mowers and other equipment be zero emission starting in 2024. Portable generators, including those in recreational vehicles, would be required to meet more stringent standards in 2024 and meet zero-emission standards starting in 2028. Despite their small size, these engines are highly polluting. The volume of smog-forming emissions from this type of equipment has surpassed emissions from light-duty passenger cars and is projected to be nearly twice those of passenger cars by 2031. Older equipment can continue to be used and resold as this rule only impacts new equipment (ARB 2021).

Regional

San Joaquin Valley Air Pollution Control District

The SJVAPCD is a public health agency whose mission is to improve the health and quality of life for all Valley residents through efficient, effective, and entrepreneurial air quality-management strategies. SJVAPCD's ten core values include: protection of public health; active and effective air pollution control efforts with minimal disruption to the Valley's economic prosperity; outstanding customer service; ingenuity and innovation; accountability to the public; open and transparent public process; recognition of the uniqueness of the Valley; continuous improvement; effective and efficient use of public funds; and respect for the opinions and interests of all Valley residents. To achieve these core values the SJVAPCD has adopted air quality plans pursuant to the CCAA and a comprehensive list of rules to limit air quality impacts. The air plans currently in effect in the SJVAB and specific rules that apply to the proposed Project are listed and described further below.

The SJVAPCD is responsible for controlling emissions primarily from stationary sources. The SJVAPCD, in coordination with the eight countywide transportation agencies, is also responsible for developing, updating, and implementing air quality attainment plans for the SJVAB. Relevant SJVAPCD air quality plans, rules and regulations are summarized below:

<u>SJVAPCD Air Quality Plans</u>

- ***2016 Ozone Plan***. The SJVAB is designated nonattainment of state and federal health-based air quality standards for ozone. EPA established 8-hour ozone standards in 1997 (84 parts per billion [ppb]), 2008 (75 ppb), and 2015 (70 ppb). The San Joaquin Valley is currently classified as in

nonattainment for each of these increasingly stringent standards. The district has adopted plans for the 1997 and 2008 ozone standards, and is on track to meet the attainment deadlines for both.

This plan included an in-depth analysis of all possible control measures and projected that the Valley will achieve the 8-hour ozone standard (as set by EPA in 2008) for all areas of the SJVAB no later than 2031. This plan went above and beyond minimum legal requirements by including a "Fast Track" control strategy. Through Fast Track, new strategies produce real reductions (even though they cannot be legally counted in the plan at this time) and will clean the air before the deadline.

Currently the air district is drafting their 2022 Ozone Plan with goal of attaining the 70 ppb standard by the 2037 deadline. "Given that over 85% of remaining NOx emissions in the Valley come from mobile sources under state and federal jurisdiction, it will be particularly important that continued efforts to reduce emissions from passenger vehicles, heavy duty trucks, locomotives, and other mobile sources be pursued."

- ***2007 PM_{10} Plan***. The Air District's *2007 PM_{10} Maintenance Plan and Request for Redesignation,* approved on September 21, 2007, assures that the Valley will continue to meet the PM_{10} standard and requests that EPA formally redesignate, or label, the Valley to attainment status. On April 5, 2008, EPA stated their intent to approve the PM_{10} Maintenance Plan.
- ***$PM_{2.5}$ Attainment Plan***. Throughout the years the SJVAPCD has implemented several plans to reduce $PM_{2.5}$ and its effects on residence in the Valley. The most recent plan 2018 Plan for the 1997, 2006, and 2012 $PM_{2.5}$ Standards (Plan) builds on existing plans and measure adopted by the district and ARB to address federal air quality standards. This Plan integrates a comprehensive strategy that contains new stationary source measures that will be applied Valley wide and measures focused on reducing emissions in areas with the most difficult attainment challenges. Through the implementation of this comprehensive strategy, the Valley will experience air quality improvements as the region attains the federal $PM_{2.5}$ standards as expeditiously as practicable. The 2018 $PM_{2.5}$ Plan estimates that the SJVAB will reach the 2012 $PM_{2.5}$ standard in 2025.

SJVAPCD Rules & Regulations

- ***Regulation VIII. Fugitive PM_{10} Prohibitions.*** The purpose of this regulation is to reduce ambient concentrations of PM_{10} by prohibiting, reducing, or mitigating anthropogenic emissions of fugitive dust, including emissions associated with various construction and operational activities.
- ***Rule 4002. National Emissions Standards for Hazardous Air Pollutants.*** This rule may apply to projects in which portions of an existing building would be renovated, partially demolished or removed. With regard to asbestos, the NESHAP specifies work practices to be followed during renovation, demolition or other abatement activities when friable asbestos is involved. Prior to demolition activity, an asbestos survey of the existing structure may be required to identify the presence of any ACBM. Removal of identified ACBM must be removed by a certified asbestos contractor in accordance with California Division of Occupational Safety and Health (CAL-OSHA) requirements.
- ***Rule 4102. Nuisance.*** Applies to any source operation that emits or may emit air contaminants or other materials.
- ***Rule 4103. Open Burning.*** This rule regulates the use of open burning and specifies the types of materials that may be open burned. Section 5.1 of this rule prohibits the burning of trees and

other vegetative (non-agricultural) material whenever the land is being developed for non-agricultural purposes.

- ***Rule 4601, Architectural Coatings***. This rule sets VOC limits on architectural coatings used in or on buildings, and on streets and parking lots.
- ***Rule 4901, Woodburning Fireplaces***. Woodburning fireplaces and heaters, emitters of particulate matter, are regulated by the SJVAPCD. As of 2020, woodburning fireplaces and heaters are not allowed in new construction unless it cannot be serviced by natural gas.
- ***Rule 4641. Cutback, Slow Cure, and Emulsified Asphalt, Paving and Maintenance Operations.*** This rule applies to the manufacture and use of cutback, slow cure, and emulsified asphalt during paving and maintenance operations.
- ***Rule 4905, Natural Gas-fired Central Furnaces***. The purpose of this rule is to limit NO_X emission from natural gas-fired furnaces.
- ***Rule 9510, Indirect Source Review (ISR).*** The purpose of this rule is to reduce construction and operational emissions associated with the use of development projects through implementation of design features, on-site emission-reduction measures, or off-site measures or the payment of an off-site emissions reduction fee to the SJVAPCD. For projects subject to this rule, the ISR rule requires developers to mitigate and/or offset emissions sufficient to achieve: (1) 20-percent reduction of construction equipment exhaust NOx; (2) 45-percent reduction of construction equipment exhaust PM_{10}; (3) 33-percent reduction of operational NO_X over 10 years; and (4) 50-percent reduction of operational PM_{10} over 10 years. SJVAPCD ISR applications must be filed "no later than applying for a final discretionary approval with a public agency."

Fresno Council of Governments

The Fresno Council of Governments (FCOG) is a voluntary association of local governments, one of California's 38 reginal planning agencies, and one of 500+ nationwide. FCOG undertakes comprehensive regional planning with an emphasis on transportation. FCOG is responsible for regional transportation planning in Fresno County and participates in developing mobile source emissions inventories used in air quality attainment plans.

Fresno County Regional Transportation Plan

The Fresno Council of Governments (FCOGs) 2022 Regional Transportation Plan (RTP) comprehensively assesses all forms of transportation available in Fresno County, as well as travel and goods movement needs through 2042. FCOG's first RTP was adopted in 1975. Updated editions have been published every four years per federal statutes refinements of the original and subsequent plans, making this the 19th edition. Federal and state legislation mandates that these long-range transportation plans extend at least 20 years into the future. As the federally designated MPO and state-designated Regional Transportation Planning Agency, FCOG has developed the 2022 RTP update through a continuous, comprehensive, and cooperative framework. This process has involved the region's 15 cities, the County of Fresno, staff from related local public agencies, the San Joaquin Valley Air Pollution Control District (SJVAPCD), Caltrans, other state and federal agencies, and the public. The RTP is made up of a variety of different elements or chapters, and each element is augmented by additional documentation. The RTP also contains a chapter that establishes the SCS to show how integrated land use and transportation planning can lead to more efficient use of autos and light trucks, as well as improve the overall quality of life in the region.

Local

City of Fowler General Plan

The current Fowler General Plan (2004) includes various goals and policies that are intended to help improve local and regional air quality. These policies include efforts to reduce emissions associated with vehicle use, energy use, and operational emissions associated with stationary sources. Policies are also included to manage the growth and development of the City of Fowler.

Rule 4901

On June 20, 2019, the SJVAPCD adopted and amendments to Rule 4901 to reduce the public's exposure to harmful particulates from wood smoke. Residential wood burning is one of the largest sources of $PM^{2.5}$ in the San Joaquin Valley during the winter season. Under the rule installation of new wood burning fireplaces and heaters is restricted at elevations below 3,000 ft. The rule also requires any modifications made to an existing fireplace or chimney must install an EPA certified, gas fueled or electric device (SJVAPCD 2021).

REGULATORY ATTAINMENT DESIGNATIONS

Under the CCAA, the ARB is required to designate areas of the state as attainment, nonattainment, or unclassified with respect to applicable standards. An "attainment" designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A "nonattainment" designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria. Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An "unclassified" designation signifies that the data does not support either an attainment or nonattainment designation. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The U.S. EPA designates areas for ozone, CO, and NO_2 as "does not meet the primary standards," "cannot be classified," or "better than national standards." For SO_2, areas are designated as "does not meet the primary standards," "does not meet the secondary standards," "cannot be classified," or "better than national standards." However, the ARB terminology of attainment, nonattainment, and unclassified is more frequently used. The U.S. EPA uses the same sub-categories for nonattainment status: serious, severe, and extreme. In 1991, U.S. EPA assigned new nonattainment designations to areas that had previously been classified as Group I, II, or III for PM_{10} based on the likelihood that they would violate national PM_{10} standards. All other areas are designated "unclassified."

The state and national attainment status designations for the SJVAB are summarized in Table 3. The SJVAB is currently designated as a nonattainment area with respect to the state ozone, PM_{10}, and $PM_{2.5}$ standards, as well as the national 8-hour ozone and $PM_{2.5}$ standards.

ENVIRONMENTAL IMPACTS

SIGNIFICANCE THRESHOLD CRITERIA

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project would normally have a significant effect on the environment if the project would:

AQ-1: Conflict with or obstruct implementation of the applicable air quality plan.

AQ-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

AQ-3: Expose sensitive receptors to substantial pollutant concentrations.

AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

San Joaquin Valley Air Pollution Control District Thresholds

To assist local jurisdictions in the evaluation of air quality impacts, the SJVAPCD has published the *Guide for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015). This guidance document includes recommended thresholds of significance to be used for the evaluation of short-term construction, long-term operational, odor, toxic air contaminant, and cumulative air quality impacts associated with project-level analyses. The SJVAPCD-recommended thresholds of significance are used to determine whether implementation of the proposed development project would result in a significant air quality impact. The SJVAPCD's recommended thresholds of significance are summarized below.

- Short-term Emissions—At the project level, construction impacts associated with proposed development projects would be considered potentially significant if project-generated emissions would exceed 100 tons per year (TPY) of CO, 10 TPY of ROG or NO_X, 27 TPY of SO_X, or 15 TPY of PM_{10} or $PM_{2.5}$. SJVAPCD-recommended significance thresholds are summarized in Table 4.
- Long-term Emissions—Operational impacts associated with the proposed project would be considered potentially significant if project generated emissions would exceed 100 TPY of CO, 10 TPY of ROG or NO_X, 27 TPY of SO_X, or 15 TPY of PM_{10} or $PM_{2.5}$. SJVAPCD-recommended significance thresholds are summarized in Table 4.
- Conflict with or Obstruct Implementation of Applicable Air Quality Plan—Due to the region's non-attainment status for ozone, $PM_{2.5}$, and PM_{10}, if project-generated emissions of ozone precursor pollutants (i.e., ROG and NO_X) or PM would exceed the SJVAPCD's significance thresholds, then the project would be considered to conflict with the attainment plans.
- Local Mobile-Source CO Concentrations—Local mobile source impacts associated with the proposed project would be considered potentially significant if the project contributes to CO concentrations at receptor locations in excess of the CAAQS (i.e., 9.0 ppm for 8 hours or 20 ppm for 1 hour).
- Exposure to TACs would be considered potentially significant if the probability of contracting cancer for the Maximally Exposed Individual (i.e., maximum individual risk) would exceed 20 in 1 million or would result in a Hazard Index greater than 1.
- Odor impacts associated with the proposed project would be considered potentially significant if the project has the potential to frequently expose members of the public to objectionable odors. Individual projects that would result in the creation of a new major odor source near existing

sensitive receptor(s), or the location of a new sensitive receptor(s) near an existing major source of odor may result in a potentially significant impact that requires further analysis. Major sources of potential odors and SJVAPCD-recommended screening distances are summarized in Table 5.

Table 4. SJVAPCD-Recommended CEQA Significance Thresholds

Pollutant	Construction Emissions (tons/year)	Operational Emissions (tons/year)
CO	100	100
NO_X	10	10
ROG	10	10
SO_X	27	27
PM_{10}	15	15
$PM_{2.5}$	15	15
Source: SJVAPCD 2015		

Table 5. SJVAPCD Screening Distances for Major Potential Odor Sources

Type of Facility	Screening Distance
Wastewater Treatment Facilities	2 Miles
Sanitary Landfill	1 Mile
Transfer Station	1 Mile
Composting Facility	1 Mile
Petroleum Refinery	2 Miles
Asphalt Batch Plant	1 Mile
Chemical Manufacturing	1 Mile
Fiberglass Manufacturing	1 Mile
Painting/Coating Operations (e.g. Auto Body Shops)	1 Mile
Food Processing Facility	1 Mile
Feed Processing Facility	1 Mile
Rendering Plant	1 Mile
Source: SJVAPCD 2015	

In addition to the above thresholds, the SJVAPCD also recommends the use of daily emissions thresholds for the evaluation of individual project impacts on localized ambient air quality conditions. Accordingly, individual projects would also be considered to result in a significant contribution to localized ambient air quality if on-site emissions or ROG, NO_X, PM_{10}, $PM_{2.5}$, CO, or SO_2 associated with either short-term construction or long-term operational activities would exceed a daily average of 100 pounds per day (lbs/day) for each of the pollutants evaluated (SJVAPCD 2015).

Methodology

Short-term emissions associated with construction activities are largely dependent on the type of development proposed, area of ground disturbance, number of buildings to be demolished, equipment required, and construction schedules. Because much of this information for specific future development projects is unknown at this time, construction-related impacts were qualitatively discussed.

Long-term operational increases in emissions of criteria air pollutants associated with energy use and area sources (e.g., landscaping activities, use of consumer products) using the California Emissions Estimator Model (CalEEMod), version 2020.4.0 (CAPCOA 2020). Emissions associated with energy use and area sources were calculated based on default usage rates contained in the model for Fresno County. Mobile-source emissions were calculated based on projected increases in vehicle miles traveled (VMT) and emission factors for Fresno County derived from the Emission Factor 2021 (EMFAC2021) computer

program (ARB 2022c). Increases in vehicle miles traveled were derived from the traffic analysis prepared for the proposed GPU (Kittelson & Associates, 2022). Emissions modeling files are provided in Appendix A. Increased exposure of sensitive land uses to localized pollutant concentrations were qualitatively assessed.

Relevant Proposed GPU Goals and Policies

The 2042 General Plan includes a number of goals and policies that would reduce air contaminant emissions. Some of the most relevant of these goals and policies include the following:

Goals

LU-1 Growth occurs logically and efficiently.

LU-2 A wide range of housing types are available to accommodate all housing needs in the community.

LU-3 Thriving commercial centers are located throughout the City.

CH-1 Opportunities for physical activity, such as walking and biking, are integrated into the built environment.

CH-2 Impacts from pollution are minimized through thoughtful and deliberate land use planning.

MOB-1 Fowler's streets are a safe and enjoyable environment for pedestrians, cyclists, motorists, and people of all ages and abilities.

MOB-2 The circulation system is safe, connected, and well-integrated with public transit and neighboring jurisdictions.

MOB-3 Goods movement throughout the planning area is efficient and safe.

MOB-4 The circulation system is adequately maintained.

MOB-5 Safe, well-designed, multi-modal connections exist across SR 99, Golden State Boulevard, and the Union Pacific Railroad.

Policies

LU-13 Planned unit developments may include any combination of single family and multifamily dwellings. Planned unit developments larger than 10 acres in size may also include related office and commercial uses. (Land Use Element, Policy 4.3.4)

Action Item LU-13a. Review and revise the Zoning Ordinance, as necessary, to reflect increased density allowances for planned unit developments at the City's discretion. Granting of additional density (not to exceed 25%) will depend on the developer's demonstration of the quality of design in such areas as access, circulation, building placement, parking, provision of open space, and architectural design and compatibility with the surrounding area. (Land Use Element, Policy 4.3.3)

LU-18 Residential uses shall be permitted in the Community Commercial designation in support of mixed-use development. (Land Use Element, Policy 4.3.7)

LU-19 Support neighborhood-serving commercial uses located near residential development with strong connectivity through walkable infrastructure.

LU-21 Encourage large, employment-generating developments to provide services such as cafeterias, childcare, and business support services that reduce the need for vehicle trips. (Land Use Element, Policy 4.6.5)

CDES-16 Locate parking areas within commercial projects in a manner that promotes pedestrian activity.

CDES-18 New commercial projects are designed in such a way that they enhance Fowler's character.

Action Item CDES-18a includes adoption of commercial standards in consideration of design principles that support the design of commercial sites with human scale and pedestrian amenities.

CDES-31 Electric vehicle charging facilities shall be permitted in accordance with the most recent state regulations.

CH-1 Implement an active transportation network that links residential uses with schools, shopping, entertainment, recreation, and employment centers.

CH-2 Promote walking and bicycling and reduce vehicle miles traveled by allowing complementary land uses in close proximity to one another.

CH-3 Consider pedestrian and bicyclist safety and comfort in the design and development of streets, parks, and public spaces.

CH-4 Require Street trees or other shade coverage along key pedestrian and bicycle routes and near transit stops.

CH-6 Evaluate land use decisions for consistency with siting recommendations as outlined in ARB's Land Use Compatibility Handbook.

CH-7 Consider the use of solid and vegetative barriers as a means for reducing near-roadway air pollution concentrations along SR 99 and local expressways.

OS-10 The City shall implement the community trail network.

OS-11 Neighborhood trails should be planned as part of a connected, City-wide open space network which connects neighborhoods, parks, community trails, and other destinations including the downtown and shopping districts.

OS-12 Placement of neighborhood trails should be constructed along the most direct alignment possible to close network gaps in the trail system. Neighborhood trails may be required to be constructed as part a new development in order to accommodate that connection.

MOB-4 Support the creation of a transportation network that provides for efficient movement of people and goods while accounting for environmental effects.

MOB-5 Encourage a Level of Service (LOS) "C" throughout the local circulation network. LOS "D" may be allowed during peak hours at intersections of major streets, at SR 99 interchanges, and along street segments where additional improvements are not feasible. LOS "D" may also be allowed along streets with the potential for a high level of pedestrian and bicyclist activity. LOS "E" may be permitted during peak hour use of certain road intersections and segments where pedestrian and bicycle activity is prioritized.

MOB-6 Use Intelligent Transportation Systems (ITS) to improve the safety and performance of the circulation network, consistent with the Fresno County ITS Strategic Plan.

MOB-9 New development may be required to provide off-site pedestrian and/or bicycle facilities to address gaps in the active transportation network.

MOB-10 Develop a multi-purpose recreational bikeway network and support facilities.

MOB-11 Ensure street and road projects are adequately designed to accommodate safe and convenient pedestrian and bicyclist access.

MOB-12 Require traffic calming techniques in the design of new local streets where such techniques will manage traffic flow and improve safety for pedestrian and bicyclist users.

MOB-13 Coordinate with Caltrans, FCOG, Fresno County Rural Transit Agency (FCRTA), and other responsible agencies to identify the need for additional mobility infrastructure and/or services along major commuter travel corridors.

MOB-14 Identify opportunities for a multi-modal transit hub within the City.

MOB-15 Support the development of paratransit service programs.

MOB-16 Support transit operator efforts to maximize return for short- and long-range transit needs.

MOB-17 Incorporate the potential for public transit service expansion throughout the City.
MOB-18 Improve route options and access for public transit City-wide, specifically west of SR 99.
MOB-19 Designated truck routes for use by heavy commercial and industrial traffic shall include Golden State Boulevard, Manning Avenue, and Temperance Avenue.
MOB-20 Encourage the efficient movement of goods.
MOB-21 Facilitate goods movement and delivery through internal site design of commercial and industrial areas.
MOB-22 Ensure truck access points and loading facilities are designed to reduce conflict with sensitive land uses.

IMPACTS AND MITIGATION MEASURES

Impact AQ-1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Long-term emissions under the proposed GPU would be associated with mobile sources (e.g., vehicle trips) and stationary sources (e.g., electricity and natural gas). Emissions associated with individual projects, depending on project type and size, could exceed project-specific thresholds established by the SJVAPCD. However, such projects will be required to undergo independent, project-level CEQA review and determine whether a project is consistent with all applicable air quality plans.

The most recently adopted air quality attainment plans in the San Joaquin Valley Air Basin are the SJVAPCD 2016 Ozone Plan, the 2018 $PM_{2.5}$ Plan, the 2020 Reasonably Available Control Technology (RACT) Demonstration for the 2015 8-hour Ozone Standard, and the 2004 Revisions to the Carbon Monoxide Maintenance Plan. These SJVAPCD Air Quality Attainment Plans contain measures to promote air quality elements in county and city general plans as one of the primary indirect source programs.

Included in the proposed 2042 General Plan are a list of policies and actions that are aimed at improving air quality. These policies and actions help reduce the VMT per capita and support sustainable development by helping to maintaining a balanced ratio of jobs to housing units, placing an emphasis on connectivity with the community, multi-modal connectivity, and improved public transit throughout Fowler. This mitigates the air quality issues targeted by applicable air quality plans.

If the General Plan would conflict or obstruct the implementation of any air quality plan control measure, it would be inconsistent with the applicable air quality plans. However, the proposed General Plan does not conflict or obstruct the implementation of any quality plan control measure and therefore, is consistent with the applicable air quality plans. All future development and infrastructure projects within the Planning Area would be subject to the General Plan goals, policies, and actions, which were adopted to reduce emissions and air quality impacts.

VMT for the Planning Area under existing (year 2019) conditions and future year 2042 conditions is summarized in Table 6. As shown, VMT for the City of Fowler under existing conditions is 247,894 miles. Under future year 2042 GPU build out, the projected VMT would be 1,240,395. In comparison to existing conditions, VMT would increase by approximately 457,846 miles traveled.

Table 6. Projected VMT Increase

Existing VMT	247,894
Future VMT	1,240,395
VMT Increase Compared to Existing:	992,501
Percent increase in VMT:	400%
Source: Kittelson & Associates, 2022	

Population for the Planning Area under existing (year 2019) conditions and future year 2042 conditions is summarized in Table 7. As shown, the City of Fowler has an existing estimated population of approximately 6,808. At full buildout of the GPU the City's population is estimated to total of 48,404, an increase in population of approximately 41,596 new residents.

Table 7. Projected Population Growth

Existing Population	6,808
Future Population	48,404
Population Increase Compared to Existing:	41,596
Percent increase in Population:	611%
Source: Kittelson & Associates, 2022	

Implementation of the proposed GPU would result in an increase in the population of approximately 611 percent, whereas, VMT would increase by approximately 336 percent. The estimated increase in VMT associated with the proposed GPU would be lower than the estimated increase in population growth. As a result, proposed GPU would not be anticipated to result in overall VMT increases on a per capita basis.

Although implementation of the proposed 2042 GPU would not be anticipated to result in a substantial increase in mobile-source emissions, when evaluated on a per capita basis, future development would be projected to result in significant increases in emissions. In addition to increases in mobile-source emissions, additional sources of emissions would include area sources, and energy use. As discussed in Impact AQ-2, emissions associated with area sources would be predominantly associated with the use of consumer products (e.g., cleaning supplies) for which the City and SJVAPCD have little to no control over. Future development would be required to comply with SJVAPCD and state requirements, including (but not limited to) SJVAPCD Rule 9510 and Title 24 energy-efficiency regulations, which would help to reduce overall emissions associated with individual development projects. However, given the regions current nonattainment status and uncertainty regarding the effectiveness of future mitigation for individual development projects, this impact would be considered **potentially significant**.

Proposed GPU Policies that Provide Mitigation

The proposed GPU includes a number of goals and policies that would reduce air contaminant emissions, primarily by promoting alternatives to personal vehicle use. Some of the more relevant goals include GPU goals: LU-1, LU-2, LU-3, CH-1, CH-2, MOB-1, MOB-2, MOB-3, MOB-4, MOB-5. Some of the more relevant GPU policies include LU-13, LU-18, LU-19, LU-21, CDES-16, CDES-18, CDES-31, CH-1, CH-2, CH-3, CH-4, CH-6, OS-10, OS-11, OS-12, MOB-4, MOB-9, MOB-10, MOB-11, MOB-12, MOB-13, MOB-14, MOB-15, MOB-16, MOB-17, MOB-18. These goals and policies would promote the implementation of the Transportation Control Measures identified in the SJVAPCD 2016 Ozone Plan and 2018 $PM_{2.5}$ Plan and would help to reduce project-generated emissions.

Mitigation Measures

- Implement Mitigation Measure AQ-1 (refer to Impact AQ-2).

Implementation of Mitigation Measure AQ-1 would reduce emissions associated with future development projects. However, given the regions current nonattainment status and uncertainty regarding the effectiveness of future mitigation for individual development projects, this impact would be considered **significant and unavoidable**.

Impact AQ-2: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The proposed 2042 GPU consists of developing parcels that are currently vacant, or under-developed and have the potential for enhanced or further development. Future residential and non-residential development within the City of Fowler's sphere of Influence, and associated increases in daily VMT are summarized in Table 8 and Table 9, respectively. As noted in Table 8, future development within the planning area would result in approximately 12,494 additional dwelling units. Daily VMT associated with future residential development would total approximately 457,846 miles. As noted in Table 9, future non-residential development would result in an increase of approximately 18,243,344 square feet and 383,368 miles traveled per day.

Table 8. Summary of Residential Land Uses within Planning Area

Land Use	Dwelling Units 2019	Daily VMT 2019	Dwelling Units 2042	Daily VMT 2042
Residential Low Density	391		2,275	
Residential Medium Low Density	636		4,122	
Residential Medium Density	1,214		4,752	
Residential Medium High Density	0		2,193	
Residential High Density	775		1,449	
Mixed- Community Commercial	208		927	
Total Residential:	3,224	136,275 VMT	15,718	594,121
Increase Compared to Existing:			12,494	457,846
Kittelson & Associates, Fowler Land Use Assumptions 2022 *Kittelson & Associates, Fowler VMT Impact Assessment 2022*				

Table 9. Summary of Non-Residential Land Uses within Planning Area

Land Use	Acres 2019	Daily VMT 2019	Acres 2042	Daily VMT 2042
Commercial Neighborhood	1.91		5.68	
Commercial Community	9.54		21.26	
Commercial General	19.96		41.92	
Industrial Light	33.01		178.70	
Industrial Heavy	100.42		331.54	
Public Park	15.80		55.03	
Public Facility	8.77		12.33	
Total Non-Residential	189.41	118,857	646.46	502,225
Increase Compared to Existing:			457.05	383,368
Kittelson & Associates, Fowler Land Use Assumptions 2022 *Kittelson & Associates, Fowler VMT Impact Assessment 2022*				

Short-Term Air Quality Impacts

Construction activity associated with the proposed 2042 GPU would cause temporary emissions of various air pollutants from demolition, grading, construction worker travel, hauling of construction supplies, fuel combustion by equipment, and architectural coating would generate pollutant emissions. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The extent of daily emissions, particularly ROGs and NO_X emissions, generated by construction equipment, would depend on the equipment used and the hours of operation for each project. The extent of $PM_{2.5}$ and PM_{10} emissions would depend upon the amount of disturbed soils, the length of disturbance time, whether existing structures are demolished, whether excavation is involved, and whether transporting excavated materials offsite is necessary. Dust emissions can lead to both nuisance and health impacts.

The SJVAPCD has not established plan-level significance thresholds for construction air pollutant emissions. At this time, most projects facilitated by the proposed 2042 GPU do not have sufficient detail to allow project-level analysis. As a result, short-term air quality impacts would be considered **potentially significant**.

Long-Term Air Quality Impacts

Long-term operational emissions associated with future development were quantified using the CalEEMod2020.4.0 based on the estimated increases in residential and non-residential development (refer to Table 8 and Table 9, respectively). Estimated annual emissions associated with the proposed 2042 GPU are summarized in Table 10. Emissions modeling was conducted for annual operational conditions under existing year 2019 and future GPU buildout year 2042 conditions. As noted in Table 10, annual emissions under existing conditions would total approximately 85.2 tons/year of ROG, 80.2 tons/year of NO_x, 232.7 tons/year of CO, 4.7 tons/year of PM_{10}, and 2.9 tons/year of $PM_{2.5}$. While emissions under the General Plan buildout in 2042 would total approximately 298.4 tons/year of ROG, 163.1 tons/year of NO_x, 506.3 tons/year of CO, 18.9 tons/year of PM_{10}, and 9.8 tons/year of $PM_{2.5}$.

As noted in Table 10, overall increases in emissions associated with future development would be largely associated with area and mobile sources. Under the newly adopted Advanced Clean Car II rule, mobile emissions will likely be reduced as adoption of EVs increases. Emissions associated with area sources would be predominantly associated with the use of consumer products (e.g., cleaning supplies). To a lesser extent, other area source emissions would be associated with the use of natural gas-fired appliances, landscape maintenance equipment, and architectural coatings. The recently adopted Small Off-Road Engine regulation will likely decrease emissions from landscape maintenance equipment under the GPU, however its effects could not be quantified for modeling. As discussed previously, the SJVAPCD has not established quantitative plan-level significance thresholds for operational emissions. At this time, there is insufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts. For this reason, this impact would be considered **potentially significant**.

Proposed GPU Policies that Provide Mitigation

The proposed GPU includes numerous goals and policies that would help to reduce criteria pollutant emissions, energy demands, and vehicle miles traveled. Some of the more relevant GPU policies include LU-21, CDS-31, CH1, CH-6, MOB-4, MOB-9, MOB-10, MOB-11, MOB-12, MOB-13, MOB-14, MOB-15, MOB-16, MOB-17, MOB-18.

Table 10. Summary of Operational Emissions Within Planning Area					
Source	Emissions (tons/year)[1]				
	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
Existing Year 2019 Conditions					
Area[2]	60.0	1.5	24.6	0.2	0.2
Energy[2]	1.2	10.3	7.3	0.8	0.8
Mobile[3]	24.0	68.4	200.8	3.7	1.9
Total:	85.2	80.2	232.7	4.7	2.9
Proposed Year 2042 GPU Buildout					
Area[2]	250.6	7.2	118.9	1.1	1.1
Energy[2]	4.7	41.2	27.9	3.2	3.2
Mobile[3]	43.1	114.7	359.5	14.6	5.5
Total:	298.4	163.1	506.3	18.9	9.8
Net Increase Compared to Existing Conditions:	213.3	82.9	273.6	14.2	6.9
SJVAPCD Significance Thresholds[4]:	10	10	100	15	15

1. Totals may not sum due to rounding.
2. Emissions calculated using CalEEMod2020.4.0. Area source emissions are predominantly associated with the use of consumer products (e.g., cleaning supplies). Other area sources include landscape maintenance equipment, natural gas-fired appliances, natural gas hearths, and architectural coatings.
3. Emissions calculated based on data derived from the VMT analysis prepared for this project and emission factors for Fresno County derived from EMFAC2021.Annual emissions of SO_X associated with typical development are anticipated to be negligible and were not included.
4. SJVAPCD Significance Thresholds apply to individual projects and are presented for informational purposes only.
Refer to Appendix A for emissions modeling assumptions and results.

Mitigation Measures

In addition to Greenhouse Gas Mitigation Measures GHG-1 and GHG-2, the following measures shall be implemented to reduce project-generated emissions of air pollutants:

MM AQ-1: Consider impacts on regional air quality when reviewing proposals for new development. Short-term construction and long-term operational quality impacts shall be evaluated in accordance with SJVAPCD-recommended guidance.

Significance After Mitigation

As noted above, the General Plan Update includes various measures to reduce energy demand and vehicle miles traveled, including the promotion of alternative means of transportation. The promotion of alternatives to automotive transportation can help to reduce local and regional mobile-source emissions and energy consumption. Mitigation Measure AQ-1 would require individual projects to evaluate regional air quality impacts resulting from construction and operational emissions. Potentially significant impacts would require implementation of additional project-specific mitigation measures to further reduce project-generated emissions and associated air quality impacts. However, given the regions current nonattainment status and uncertainty regarding the effectiveness of future mitigation for individual development projects, short-term and long-term air quality impacts would be considered **significant and unavoidable**.

Impact AQ-3: Would the project expose sensitive receptors to substantial pollutant concentrations?

Sensitive receptors as defined by the SJVAPCD include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). The 2042 General Plan would include the development of land uses considered to be sensitive receptors, as well as new development near existing sensitive receptors. Activities associated with implementation of the proposed General Plan could potentially include short-term, construction sources of TACs and long-term, operational sources of TACs, including stationary and mobile sources. TACs are a defined set of airborne pollutants that may pose a present or potential hazard to human health and $PM_{2.5}$ can cause a wide range of health effects.

Short-Term Construction Emissions

Construction projects can result in short-term increases of TACs, as well as emissions of airborne fugitive dust. Emissions of DPM emitted from construction vehicles is of particular concern. Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. However, various other TACs from diesel exhaust also contribute to both cancer and non-cancer health risks. Construction-generated emissions of $PM_{2.5}$ can also contribute to significant health impacts, particularly among the more sensitive population groups (i.e., children, elderly, etc.).

The amount of TACs generated during construction of individual projects would vary depending on numerous factors, including the size of the development, the type, age and number of pieces of equipment required, and hours of use. Furthermore, it is anticipated that multiple construction projects could occur simultaneously within a given year and within a given area. Without detailed construction information (i.e., construction schedules, demolition, grading, excavation, and construction requirements), construction-generated emissions of TACs for individual projects cannot be quantified at this time. As a result, this impact would be considered **potentially significant**.

Proposed Mitigation Measures

- Implement Mitigation Measure AQ-1 (refer to Impact AQ-2)

Significance After Mitigation

Mitigation Measure AQ-1 would require future development projects to be evaluated in accordance with SJVAPCD's recommended guidance. In accordance with SJVAPCD's guidance, construction projects would be required to incorporate economically feasible construction best management practices as conditions of approval. However, even with adoption of MM AQ-1, it is conceivable that some development projects may be large enough or close enough to a sensitive receptor that the project-level significance thresholds would be exceeded. In the event that a significant impact is identified for an individual project, SJVAPCD-recommended mitigation measures would be required to reduce project-related impacts. However, even with mitigation, it may not be possible to reduce potential emissions of TACS and all health-related risks to nearby receptors to levels below the SJVAPCD thresholds. As a result, this impact would be considered **significant and unavoidable**.

Long-Term Exposure

Toxic Air Contaminants

Development of future land uses may include potential stationary sources of TACs, such as diesel-powered emergency-use power generators. The type and level of TAC emissions emitted would depend upon the nature of the land use and the specific methods and operations that involve toxic air emissions. Pursuant to SJVAPCD rules and regulations, including SJVAPCD Rule 2201 (New Source Review Rule), new and modified stationary sources of emissions are required to mitigate emissions using best available control technology and to offset emissions when above thresholds

In addition to the long-term exposure to stationary emission sources, new land uses may also be exposed to emissions from mobile sources. Major roadways of potential concern with regard to mobile-source TACs typically include roadways with average-daily traffic (ADT) volumes of 100,000 or more. Within the planning area, State Route 99 (SR-99) is considered the primary source of mobile-source TAC emissions. Average-daily traffic volumes along SR-99 located within the city range from approximately 94,000 to approximately 99,000 (Peters Engineering Group 2022).

The proposed General Plan would include opportunities for new development and redevelopment near SR-99. In addition, depending on the type of future development, some projects contribute substantially to existing vehicle traffic on area roadways, particularly diesel-fueled heavy-duty trucks associated with industrial development. Such development could result in the exposure of sensitive receptors to mobile-sources of TACs. Given that future development could potentially result in increased exposure of sensitive land uses to TACs, this impact would be considered **potentially significant**.

Proposed GPU Policies that Provide Mitigation

Proposed 2042 GPU Policy CH 6 would require that future land uses be evaluated for consistency with siting recommendations as outlined in ARB's Land Use Compatibility Handbook (refer to Table 1). In addition, solid or vegetative barriers would be considered for reducing near-road air pollutant concentrations for development located along SR-99 and major local expressways.

Proposed Mitigation Measure

MM AQ-2a: Consider the localized air quality impacts on surrounding land uses, including emissions of toxic air contaminants and odors, when reviewing proposals for new development.

Significance After Mitigation

With implementation of proposed GPU policies proposed mitigation measure and compliance with applicable ARB and SJVAPCD rules and regulations would reduce the potential exposure of sensitive receptors to TACs. However, even with mitigation, it may not be possible to reduce potential emissions of TACS and all cumulative health-related risks to nearby receptors to levels below the SJVAPCD thresholds. As a result, this impact would be considered **significant and unavoidable**.

Mobile-Source Carbon Monoxide

Buildout of the 2042 General Plan would result in new development or redevelopment that would generate additional vehicle trips on area roadways. Areas with high vehicle density, such as congested

intersections, have the potential to create concentrations of CO ("CO hotspots") and could potentially expose sensitive receptors to harmful levels of pollution.

Localized CO concentrations are the result of the volume of cars along a road and the level of emissions generated by vehicles, rather than the flow of traffic. Vehicle CO emissions have declined over time due to stringent State standards for vehicle emissions and would continue to decline as more stringent standards are put in place. However, CO hotspots can occur if large numbers of vehicles are concentrated on a roadway. This becomes a concern when the LOS of a given roadway is negatively affected by a project enough to be classified as LOS E or F. According to the traffic analysis, 3 roadway segments are expected to operate at LOS E or F under 2042 General Plan buildout conditions. Therefore, this impact would be considered **potentially significant**.

General Plan Policies that Provide Mitigation

Proposed 2042 GPU Policy MOB 5 would require future development to assess impacts to the local circulation network and to encourage achievement of LOS C, where possible. Proposed 2042 GPU Policy MOB 6 would also require use of ITS to improve the safety and performance of the circulation network, consistent with the Fresno County ITS Strategic Plan.

Proposed Mitigation Measure

MM AQ-2b*:* The City shall require new development projects to demonstrate LOS reductions for any project-associated intersection to an LOS E or F, or worsen an existing LOS F. If this requirement is not met, a project-specific CO Hotspot analysis shall be conducted. If the CO analysis shows levels above current applicable ambient air quality standards, the project proponent shall be required to make intersection improvements to reduce CO emissions at the intersection, alter the project to reduce the impact, or implement other measures sufficient to demonstrate a reduction in predicted localized CO concentrations to below applicable ambient air quality standards.

Significance After Mitigation

Implementation of the above recommended mitigation measure would require the review of proposed development projects to ensure that future development projects would not result in an increase in localized CO concentrations that would adversely impact nearby sensitive receptors. With implementation of proposed General Plan Update policies, the proposed mitigation measure, this impact would be considered **less than significant**.

Impact AQ-4: Would the General Plan result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source, wind speed and direction, and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

Due to the subjective nature of odor impacts, the number of variables that can influence the potential for an odor impact, and the variety of odor sources, there are no quantitative or formulaic methodologies to determine if potential odors would have a significant impact. Project-specific analysis would be assessed for new development planned for in the 2042 GPU.

The intensity of an odor source's operations and its proximity to sensitive receptors influences the potential significance of odor emissions. As shown in Table 5, the SJVAPCD has a Screening Levels for Potential Odor Sources depending on the distance to a sensitive receiver. Land uses that typically produce objectionable odors include landfills, rendering plants, chemical plants, agricultural uses, wastewater treatment plants, refineries, fast food restaurants, bakeries, and coffee roasting facilities (ARB 2005; SJVAPCD 2015).

The residential uses in the 2042 General Plan are not considered odor-generating land uses. At this time, the projects facilitated by the 2042 General Plan do not have sufficient detail to allow project-level analysis and thus it would be speculative to determine adverse odor affects from the 2042 General Plan. Therefore, odor impacts as a result of the proposed general plan would be considered **potentially significant**.

Proposed GPU Policies that Provide Mitigation

No proposed 2042 GPU policies have been identified that would reduce this impact.

Mitigation Measures

Implement Mitigation Measure AQ-2a (refer to Impact AQ-3).

Significance After Mitigation

Implementation of proposed Mitigation Measure AQ-2a and compliance with applicable SJVAPCD rules and regulations would reduce the potential exposure of sensitive receptors to odors. However, even with mitigation, it may not be possible to reduce potential emissions of odors and related impacts to a less-than-significant level in all instances. As a result, this impact would be considered **significant and unavoidable**.

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APPENDIX A

Emissions Modeling

Emissions - Year 2019

LAND USE	Total Annual VMT *Per Day*
Fowler GP Per Capita 2019	247,894
Fowler GP Per Employee 2019	
Total	247,894

							Emissions (Tons/Day/Vehicle Type)								
	VMT	Gallons/Mile*	Gallons	BTU/gallon**	BTU	MMBTU	ROG	TOG	CO	Nox	PM 10	PM 2.5	CO2	CH4	N2O
Diesel	28305	0.14045320	3975.46364365	137381	546153171	546	0.0058666	0.0066786	0.0277245	0.1366769	0.0057296	0.0034836	44.5433711	0.0000000	0.0009848
Gasoline	216396	0.04654314	10071.75245011	120286	1211490815	1211	0.0599337	0.0648003	0.5216062	0.0506681	0.0043522	0.0015845	94.0741932	0.0000000	0.0001798
Plug-in Hybrid	2056	0.01763230	36.25124929	120286	4360518	4	0.0000803	0.0000849	0.0007959	0.0000299	0.0000287	0.0000097	0.3434475	0.0000000	0.0000001
Electric	1137	0.00000000	0.00000000	0	0	0	0	0	0	0	0.0000155	0.0000044	0	0	0
Total Emisions (lbs per Day)							131.7611628	143.1276731	1100.2531916	374.7496196	20.2520181	10.1643799	277922.0236703	0.0000051	2.3294299
Total Emisions (Tons per Day)							0.0658806	0.0715638	0.5501266	0.1873748	0.0101260	0.0050822	138.9610118	0.0000000	0.0011647
Total Emissions (lbs per Year)							48092.82442	52241.60068	401592.4149	136783.6112	7391.986622	3709.998662	101441538.6	0.001877882	850.2419185
Total Emissions (Tons per Year)							24.04641221	26.12080034	200.7962075	68.39180558	3.695993311	1.854999331	50720.76932	9.38941E-07	0.425120959

**Gallons per mile based on year 2019 conditions for Fresno County. Derived from Emfac2021 (v1.0.2) Emissions Inventory.*

**Energy coefficient derived from US EIA.

https://www.eia.gov/energyexplained/index.php?page=about_energy_units

MTCO2e			
GHG	**Tons/year**	**GWP**	**MTCO2e**
CO2	50720.77	1	50720.7693
CH4	9.39E-07	25	2.3474E-05
N2O	0.425121	298	126.686046
		Total	50847.4554

Emissions - Year 2042

LAND USE	Total Annual VMT *Per Day*
Fowler GP Per Capita 2042	1,240,395
Fowler GP Per Employee 2042	
Total	1,240,395

							Emissions (Tons/Day/Vehicle Type)								
	VMT	Gallons/Mile*	Gallons	BTU/gallon**	BTU	MMBTU	ROG	TOG	CO	Nox	PM 10	PM 2.5	CO2	CH4	N2O
Diesel	130628	0.12344265	16125.01240872	137381	2215270330	2215	0.0082866	0.0094336	0.0936796	0.2603830	0.0190400	0.0083505	180.5114062	0.0000000	0.0035107
Gasoline	954456	0.03204408	30584.67220509	120286	3678907881	3679	0.1077523	0.1122208	0.8787340	0.0533963	0.0169174	0.0054642	290.0430024	0.0000000	0.0002433
Plug-in Hybrid	35304	0.01355968	478.71346452	120286	57582528	58	0.0021133	0.0021988	0.0124261	0.0005756	0.0004703	0.0001401	4.5397737	0.0000000	0.0000013
Electric	120007	0.00000000	0.00000000	0	0	0	0	0	0	0	0.0035298	0.0010843	0	0	0
Total Emisions (lbs per Day)							236.3044104	247.7064094	1969.6793920	628.7098193	79.9153079	30.0782044	950188.3646237	0.0000013	7.5105822
Total Emisions (Tons per Day)							0.1181522	0.1238532	0.9848397	0.3143549	0.0399577	0.0150391	475.0941823	0.0000000	0.0037553
Total Emissions (lbs per Year)							86251.10979	90412.83944	718932.9781	229479.084	29169.08739	10978.54459	346818753.1	0.000488043	2741.362513
Total Emissions (Tons per Year)							43.12555489	45.20641972	359.466489	114.739542	14.58454369	5.489272295	173409.3765	2.44022E-07	1.370681256

**Gallons per mile based on year 2042 conditions for Fresno County. Derived from Emfac2021 (v1.0.2) Emissions Inventory.*

**Energy coefficient derived from US EIA.

https://www.eia.gov/energyexplained/index.php?page=about_energy_units

MTCO2e			
GHG	**Tons/year**	**GWP**	**MTCO2e**
CO2	173409.3765	1	173409.3765
CH4	2.44022E-07	25	6.10054E-06
N2O	1.370681256	298	408.4630144
		Total	173817.8396

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fowler 2019

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	869.37	1000sqft	19.96	869,370.00	0
Elementary School	381.98	1000sqft	8.77	381,978.00	0
General Heavy Industry	4,374.12	1000sqft	100.42	4,374,121.00	0
General Light Industry	1,438.00	1000sqft	33.01	1,438,003.00	0
City Park	15.80	Acre	15.80	688,248.00	0
Apartments Low Rise	983.00	Dwelling Unit	61.44	983,000.00	2811
Single Family Housing	2,241.00	Dwelling Unit	727.60	4,033,800.00	6409
Regional Shopping Center	415.53	1000sqft	9.54	415,528.00	0
Strip Mall	83.11	1000sqft	1.91	83,112.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2019
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - ..

Construction Phase - No Construction

Grading - No Construction

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Architectural Coating - No construction

Vehicle Trips - Mobile calculated separately

Woodstoves -

Area Coating -

Water And Wastewater -

Solid Waste -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	3,781,056.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	11,343,168.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	3,386,340.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	10,159,020.00	0.00
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	1,100.00	0.00
tblConstructionPhase	NumDays	15,500.00	0.00
tblConstructionPhase	NumDays	1,000.00	0.00
tblConstructionPhase	NumDays	1,550.00	0.00
tblConstructionPhase	NumDays	1,100.00	0.00
tblConstructionPhase	NumDays	600.00	0.00
tblLandUse	LandUseSquareFeet	381,980.00	381,978.00
tblLandUse	LandUseSquareFeet	4,374,120.00	4,374,121.00
tblLandUse	LandUseSquareFeet	1,438,000.00	1,438,003.00
tblLandUse	LandUseSquareFeet	415,530.00	415,528.00
tblLandUse	LandUseSquareFeet	83,110.00	83,112.00
tblSolidWaste	SolidWasteGenerationRate	1.36	1.48
tblTripsAndVMT	VendorTripNumber	1,697.00	1,479.00
tblTripsAndVMT	WorkerTripNumber	4,843.00	4,285.00
tblTripsAndVMT	WorkerTripNumber	969.00	857.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	HO_TL	7.50	0.00
tblVehicleTrips	HO_TL	7.50	0.00
tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HW_TL	10.80	0.00
tblVehicleTrips	HW_TL	10.80	0.00
tblVehicleTrips	ST_TR	8.14	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	46.12	0.00
tblVehicleTrips	ST_TR	9.54	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	6.28	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	SU_TR	8.55	0.00
tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	7.32	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	19.52	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	22.59	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblVehicleTrips	WD_TR	9.44	0.00
tblVehicleTrips	WD_TR	44.32	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblWater	OutdoorWaterUseRate	18,825,405.32	20,505,394.03
tblWoodstoves	NumberCatalytic	61.44	0.00
tblWoodstoves	NumberCatalytic	727.60	0.00
tblWoodstoves	NumberNoncatalytic	61.44	0.00
tblWoodstoves	NumberNoncatalytic	727.60	0.00

2.0 Emissions Summary

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	59.9839	1.4853	24.6406	8.9700e-003		0.2296	0.2296		0.2296	0.2296	0.0000	1,435.8993	1,435.8993	0.0655	0.0256	1,445.1677
Energy	1.1519	10.2737	7.3449	0.0628		0.7958	0.7958		0.7958	0.7958	0.0000	19,375.5958	19,375.5958	1.5089	0.3654	19,522.2063
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	2,394.6012	0.0000	2,394.6012	141.5169	0.0000	5,932.5230
Water						0.0000	0.0000		0.0000	0.0000	563.0716	988.9195	1,551.9911	57.9928	1.3850	3,414.5278
Total	**61.1358**	**11.7590**	**31.9856**	**0.0718**	**0.0000**	**1.0254**	**1.0254**	**0.0000**	**1.0254**	**1.0254**	**2,957.6728**	**21,800.4146**	**24,758.0873**	**201.0841**	**1.7760**	**30,314.4248**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	59.9839	1.4853	24.6406	8.9700e-003		0.2296	0.2296		0.2296	0.2296	0.0000	1,435.8993	1,435.8993	0.0655	0.0256	1,445.1677
Energy	1.1519	10.2737	7.3449	0.0628		0.7958	0.7958		0.7958	0.7958	0.0000	19,375.5958	19,375.5958	1.5089	0.3654	19,522.2063
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	2,394.6012	0.0000	2,394.6012	141.5169	0.0000	5,932.5230
Water						0.0000	0.0000		0.0000	0.0000	563.0716	988.9195	1,551.9911	57.9928	1.3850	3,414.5278
Total	**61.1358**	**11.7590**	**31.9856**	**0.0718**	**0.0000**	**1.0254**	**1.0254**	**0.0000**	**1.0254**	**1.0254**	**2,957.6728**	**21,800.4146**	**24,758.0873**	**201.0841**	**1.7760**	**30,314.4248**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/22/2022	8/21/2022	5	0	
2	Site Preparation	Site Preparation	8/23/2022	8/22/2022	5	0	
3	Grading	Grading	8/24/2022	8/23/2022	5	0	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/25/2022	8/24/2022	5	0	
5	Paving	Paving	8/26/2022	8/25/2022	5	0	
6	Architectural Coating	Architectural Coating	8/27/2022	8/26/2022	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
Demolition	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
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	4,285.00	1,479.00	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	857.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Elementary School	0.00	0.00	0.00		
General Heavy Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Government Office Building	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	0.00	0.00	0.00	48.40	15.90	35.70	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	0.00	0.00	0.00	48.40	15.90	35.70	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
City Park	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
Elementary School	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
General Heavy Industry	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
General Light Industry	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
Government Office Building	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
Regional Shopping Center	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
Single Family Housing	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625
Strip Mall	0.482772	0.053013	0.177201	0.181386	0.030694	0.007689	0.014311	0.021176	0.000804	0.000296	0.025348	0.001685	0.003625

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive 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	7,975.9881	7,975.9881	1.2904	0.1564	8,054.8565
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	7,975.9881	7,975.9881	1.2904	0.1564	8,054.8565
NaturalGas Mitigated	1.1519	10.2737	7.3449	0.0628		0.7958	0.7958		0.7958	0.7958	0.0000	11,399.6077	11,399.6077	0.2185	0.2090	11,467.3499
NaturalGas Unmitigated	1.1519	10.2737	7.3449	0.0628		0.7958	0.7958		0.7958	0.7958	0.0000	11,399.6077	11,399.6077	0.2185	0.2090	11,467.3499

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	1.3415e+007	0.0723	0.6181	0.2630	3.9500e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.8766	715.8766	0.0137	0.0131	720.1307
City Park	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
Elementary School	9.50361e+006	0.0512	0.4659	0.3913	2.8000e-003		0.0354	0.0354		0.0354	0.0354	0.0000	507.1490	507.1490	9.7200e-003	9.3000e-003	510.1627
General Heavy Industry	9.05443e+007	0.4882	4.4385	3.7283	0.0266		0.3373	0.3373		0.3373	0.3373	0.0000	4,831.7889	4,831.7889	0.0926	0.0886	4,860.5018
General Light Industry	2.97667e+007	0.1605	1.4592	1.2257	8.7500e-003		0.1109	0.1109		0.1109	0.1109	0.0000	1,588.4625	1,588.4625	0.0305	0.0291	1,597.9019
Government Office Building	1.12323e+007	0.0606	0.5506	0.4625	3.3000e-003		0.0419	0.0419		0.0419	0.0419	0.0000	599.3962	599.3962	0.0115	0.0110	602.9581
Regional Shopping Center	4.40875e+006	0.0238	0.2161	0.1815	1.3000e-003		0.0164	0.0164		0.0164	0.0164	0.0000	235.2678	235.2678	4.5100e-003	4.3100e-003	236.6659
Single Family Housing	5.38681e+007	0.2905	2.4822	1.0562	0.0158		0.2007	0.2007		0.2007	0.2007	0.0000	2,874.6096	2,874.6096	0.0551	0.0527	2,891.6920
Strip Mall	881818	4.7500e-003	0.0432	0.0363	2.6000e-004		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	47.0572	47.0572	9.0000e-004	8.6000e-004	47.3368
Total		**1.1519**	**10.2737**	**7.3449**	**0.0628**		**0.7959**	**0.7959**		**0.7959**	**0.7959**	**0.0000**	**11,399.6077**	**11,399.6077**	**0.2185**	**0.2090**	**11,467.3499**

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Apartments Low Rise	1.3415e+007	0.0723	0.6181	0.2630	3.9500e-003		0.0500	0.0500		0.0500	0.0500	0.0000	715.8766	715.8766	0.0137	0.0131	720.1307
City Park	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
Elementary School	9.50361e+006	0.0512	0.4659	0.3913	2.8000e-003		0.0354	0.0354		0.0354	0.0354	0.0000	507.1490	507.1490	9.7200e-003	9.3000e-003	510.1627
General Heavy Industry	9.05443e+007	0.4882	4.4385	3.7283	0.0266		0.3373	0.3373		0.3373	0.3373	0.0000	4,831.7889	4,831.7889	0.0926	0.0886	4,860.5018
General Light Industry	2.97667e+007	0.1605	1.4592	1.2257	8.7500e-003		0.1109	0.1109		0.1109	0.1109	0.0000	1,588.4625	1,588.4625	0.0305	0.0291	1,597.9019
Government Office Building	1.12323e+007	0.0606	0.5506	0.4625	3.3000e-003		0.0419	0.0419		0.0419	0.0419	0.0000	599.3962	599.3962	0.0115	0.0110	602.9581
Regional Shopping Center	4.40875e+006	0.0238	0.2161	0.1815	1.3000e-003		0.0164	0.0164		0.0164	0.0164	0.0000	235.2678	235.2678	4.5100e-003	4.3100e-003	236.6659
Single Family Housing	5.38681e+007	0.2905	2.4822	1.0562	0.0158		0.2007	0.2007		0.2007	0.2007	0.0000	2,874.6096	2,874.6096	0.0551	0.0527	2,891.6920
Strip Mall	881818	4.7500e-003	0.0432	0.0363	2.6000e-004		3.2900e-003	3.2900e-003		3.2900e-003	3.2900e-003	0.0000	47.0572	47.0572	9.0000e-004	8.6000e-004	47.3368
Total		**1.1519**	**10.2737**	**7.3449**	**0.0628**		**0.7959**	**0.7959**		**0.7959**	**0.7959**	**0.0000**	**11,399.6077**	**11,399.6077**	**0.2185**	**0.2090**	**11,467.3499**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	4.0608e+006	375.7208	0.0608	7.3700e-003	379.4360
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	2.59745e+006	240.3259	0.0389	4.7100e-003	242.7023
General Heavy Industry	3.76612e+007	3,484.5546	0.5637	0.0683	3,519.0106
General Light Industry	1.23812e+007	1,145.5559	0.1853	0.0225	1,156.8834
Government Office Building	7.68523e+006	711.0665	0.1150	0.0139	718.0977
Regional Shopping Center	3.29098e+006	304.4940	0.0493	5.9700e-003	307.5050
Single Family Housing	1.78696e+007	1,653.3669	0.2675	0.0324	1,669.7158
Strip Mall	658247	60.9035	9.8500e-003	1.1900e-003	61.5057
Total		**7,975.9881**	**1.2904**	**0.1564**	**8,054.8564**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	4.0608e+006	375.7208	0.0608	7.3700e-003	379.4360
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	2.59745e+006	240.3259	0.0389	4.7100e-003	242.7023
General Heavy Industry	3.76612e+007	3,484.5546	0.5637	0.0683	3,519.0106
General Light Industry	1.23812e+007	1,145.5559	0.1853	0.0225	1,156.8834
Government Office Building	7.68523e+006	711.0665	0.1150	0.0139	718.0977
Regional Shopping Center	3.29098e+006	304.4940	0.0493	5.9700e-003	307.5050
Single Family Housing	1.78696e+007	1,653.3669	0.2675	0.0324	1,669.7158
Strip Mall	658247	60.9035	9.8500e-003	1.1900e-003	61.5057
Total		**7,975.9881**	**1.2904**	**0.1564**	**8,054.8564**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	59.9839	1.4853	24.6406	8.9700e-003		0.2296	0.2296		0.2296	0.2296	0.0000	1,435.8993	1,435.8993	0.0655	0.0256	1,445.1677
Unmitigated	59.9839	1.4853	24.6406	8.9700e-003		0.2296	0.2296		0.2296	0.2296	0.0000	1,435.8993	1,435.8993	0.0655	0.0256	1,445.1677

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	9.9663					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	49.1334					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1411	1.2060	0.5132	7.7000e-003		0.0975	0.0975		0.0975	0.0975	0.0000	1,396.6606	1,396.6606	0.0268	0.0256	1,404.9603
Landscaping	0.7431	0.2793	24.1274	1.2700e-003		0.1321	0.1321		0.1321	0.1321	0.0000	39.2386	39.2386	0.0388	0.0000	40.2074
Total	**59.9839**	**1.4853**	**24.6406**	**8.9700e-003**		**0.2296**	**0.2296**		**0.2296**	**0.2296**	**0.0000**	**1,435.8993**	**1,435.8993**	**0.0655**	**0.0256**	**1,445.1677**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	9.9663					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	49.1334					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.1411	1.2060	0.5132	7.7000e-003		0.0975	0.0975		0.0975	0.0975	0.0000	1,396.6606	1,396.6606	0.0268	0.0256	1,404.9603
Landscaping	0.7431	0.2793	24.1274	1.2700e-003		0.1321	0.1321		0.1321	0.1321	0.0000	39.2386	39.2386	0.0388	0.0000	40.2074
Total	**59.9839**	**1.4853**	**24.6406**	**8.9700e-003**		**0.2296**	**0.2296**		**0.2296**	**0.2296**	**0.0000**	**1,435.8993**	**1,435.8993**	**0.0655**	**0.0256**	**1,445.1677**

7.0 Water Detail

7.1 Mitigation Measures Water

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1,551.9911	57.9928	1.3850	3,414.5278
Unmitigated	1,551.9911	57.9928	1.3850	3,414.5278

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	64.0464 / 40.3771	65.4590	2.0943	0.0502	132.7639
City Park	0 / 20.5054	6.6403	1.0700e-003	1.3000e-004	6.7060
Elementary School	11.0762 / 28.4818	18.2826	0.3633	8.8100e-003	29.9912
General Heavy Industry	1011.52 / 0	827.3183	33.0422	0.7882	1,888.2541
General Light Industry	332.538 / 0	271.9824	10.8627	0.2591	620.7670
Government Office Building	172.709 / 105.854	175.5375	5.6473	0.1353	357.0234
Regional Shopping Center	30.7794 / 18.8648	31.2835	1.0064	0.0241	63.6271
Single Family Housing	146.01 / 92.0499	149.2305	4.7744	0.1144	302.6692
Strip Mall	6.15617 / 3.77313	6.2570	0.2013	4.8200e-003	12.7260
Total		**1,551.9911**	**57.9929**	**1.3849**	**3,414.5278**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	64.0464 / 40.3771	65.4590	2.0943	0.0502	132.7639
City Park	0 / 20.5054	6.6403	1.0700e-003	1.3000e-004	6.7060
Elementary School	11.0762 / 28.4818	18.2826	0.3633	8.8100e-003	29.9912
General Heavy Industry	1011.52 / 0	827.3183	33.0422	0.7882	1,888.2541
General Light Industry	332.538 / 0	271.9824	10.8627	0.2591	620.7670
Government Office Building	172.709 / 105.854	175.5375	5.6473	0.1353	357.0234
Regional Shopping Center	30.7794 / 18.8648	31.2835	1.0064	0.0241	63.6271
Single Family Housing	146.01 / 92.0499	149.2305	4.7744	0.1144	302.6692
Strip Mall	6.15617 / 3.77313	6.2570	0.2013	4.8200e-003	12.7260
Total		**1,551.9911**	**57.9929**	**1.3849**	**3,414.5278**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Fowler 2019 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2,394.6012	141.5169	0.0000	5,932.5230
Unmitigated	2,394.6012	141.5169	0.0000	5,932.5230

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	452.18	91.7885	5.4245	0.0000	227.4020
City Park	1.48	0.3004	0.0178	0.0000	0.7443
Elementary School	496.57	100.7992	5.9571	0.0000	249.7258
General Heavy Industry	5423.91	1,101.0047	65.0675	0.0000	2,727.6926
General Light Industry	1783.12	361.9573	21.3911	0.0000	896.7338
Government Office Building	808.51	164.1202	9.6992	0.0000	406.6009
Regional Shopping Center	436.31	88.5670	5.2342	0.0000	219.4210
Single Family Housing	2307.24	468.3489	27.6786	0.0000	1,160.3145
Strip Mall	87.27	17.7150	1.0469	0.0000	43.8882
Total		**2,394.6012**	**141.5169**	**0.0000**	**5,932.5230**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	452.18	91.7885	5.4245	0.0000	227.4020
City Park	1.48	0.3004	0.0178	0.0000	0.7443
Elementary School	496.57	100.7992	5.9571	0.0000	249.7258
General Heavy Industry	5423.91	1,101.0047	65.0675	0.0000	2,727.6926
General Light Industry	1783.12	361.9573	21.3911	0.0000	896.7338
Government Office Building	808.51	164.1202	9.6992	0.0000	406.6009
Regional Shopping Center	436.31	88.5670	5.2342	0.0000	219.4210
Single Family Housing	2307.24	468.3489	27.6786	0.0000	1,160.3145
Strip Mall	87.27	17.7150	1.0469	0.0000	43.8882
Total		**2,394.6012**	**141.5169**	**0.0000**	**5,932.5230**

9.0 Operational Offroad

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

10.0 Stationary Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fowler GP 2042

Fresno County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Government Office Building	1,826.21	1000sqft	41.92	1,826,209.00	0
Elementary School	537.09	1000sqft	12.33	537,090.00	0
General Heavy Industry	14,442.10	1000sqft	331.54	14,442,100.00	0
General Light Industry	7,784.08	1000sqft	178.70	7,784,084.00	0
City Park	55.03	Acre	55.03	2,397,106.00	0
Apartments Low Rise	2,376.00	Dwelling Unit	148.50	2,376,000.00	6795
Single Family Housing	13,342.00	Dwelling Unit	4,331.82	24,015,600.00	38158
Regional Shopping Center	926.00	1000sqft	21.26	925,998.00	0
Strip Mall	247.25	1000sqft	5.68	247,246.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	45
Climate Zone	3			**Operational Year**	2040
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	25.42	**CH4 Intensity (lb/MWhr)**	0.004	**N2O Intensity (lb/MWhr)**	0

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity Factors adjusted based on RPS

Land Use - Full 2042 buildout

Construction Phase - No construction

Trips and VMT - No construction

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Grading - No construction

Architectural Coating - No construction

Vehicle Trips - Mobile calculated separately

Woodstoves - No Fireplaces

Area Coating -

Water And Wastewater -

Solid Waste -

Area Mitigation -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,881,364.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	38,644,091.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	17,814,330.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	53,442,990.00	0.00
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstructionPhase	NumDays	11,000.00	1.00
tblConstructionPhase	NumDays	155,000.00	1.00
tblConstructionPhase	NumDays	10,000.00	1.00
tblConstructionPhase	NumDays	15,500.00	1.00
tblConstructionPhase	NumDays	11,000.00	1.00
tblConstructionPhase	NumDays	6,000.00	1.00
tblGrading	AcresOfGrading	3.00	0.00
tblGrading	AcresOfGrading	1.50	0.00
tblLandUse	LandUseSquareFeet	1,826,210.00	1,826,209.00
tblLandUse	LandUseSquareFeet	7,784,080.00	7,784,084.00
tblLandUse	LandUseSquareFeet	2,397,106.80	2,397,106.00
tblLandUse	LandUseSquareFeet	926,000.00	925,998.00
tblLandUse	LandUseSquareFeet	247,250.00	247,246.00
tblProjectCharacteristics	CH4IntensityFactor	0.033	0.004

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblProjectCharacteristics	CO2IntensityFactor	203.98	25.42
tblProjectCharacteristics	N2OIntensityFactor	0.004	0
tblSolidWaste	SolidWasteGenerationRate	4.73	0.12
tblTripsAndVMT	VendorTripNumber	6,296.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	18,041.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	3,608.00	0.00
tblVehicleTrips	HO_TL	7.50	0.00
tblVehicleTrips	HO_TL	7.50	0.00
tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HS_TL	7.30	0.00
tblVehicleTrips	HW_TL	10.80	0.00
tblVehicleTrips	HW_TL	10.80	0.00
tblVehicleTrips	ST_TR	8.14	0.00
tblVehicleTrips	ST_TR	1.96	0.00
tblVehicleTrips	ST_TR	6.42	0.00
tblVehicleTrips	ST_TR	1.99	0.00
tblVehicleTrips	ST_TR	46.12	0.00
tblVehicleTrips	ST_TR	9.54	0.00
tblVehicleTrips	ST_TR	42.04	0.00
tblVehicleTrips	SU_TR	6.28	0.00
tblVehicleTrips	SU_TR	2.19	0.00
tblVehicleTrips	SU_TR	5.09	0.00
tblVehicleTrips	SU_TR	5.00	0.00
tblVehicleTrips	SU_TR	21.10	0.00
tblVehicleTrips	SU_TR	8.55	0.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblVehicleTrips	SU_TR	20.43	0.00
tblVehicleTrips	WD_TR	7.32	0.00
tblVehicleTrips	WD_TR	0.78	0.00
tblVehicleTrips	WD_TR	19.52	0.00
tblVehicleTrips	WD_TR	3.93	0.00
tblVehicleTrips	WD_TR	4.96	0.00
tblVehicleTrips	WD_TR	22.59	0.00
tblVehicleTrips	WD_TR	37.75	0.00
tblVehicleTrips	WD_TR	9.44	0.00
tblVehicleTrips	WD_TR	44.32	0.00
tblWater	OutdoorWaterUseRate	65,567,218.67	1,644,244.26
tblWoodstoves	NumberCatalytic	148.50	0.00
tblWoodstoves	NumberCatalytic	4,331.82	0.00
tblWoodstoves	NumberNoncatalytic	148.50	0.00
tblWoodstoves	NumberNoncatalytic	4,331.82	0.00

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	6.2200e-003	0.0629	0.0511	1.0000e-004	0.0120	2.9700e-003	0.0150	6.6200e-003	2.7500e-003	9.3700e-003	0.0000	8.3859	8.3859	2.5100e-003	0.0000	8.4486
Maximum	**6.2200e-003**	**0.0629**	**0.0511**	**1.0000e-004**	**0.0120**	**2.9700e-003**	**0.0150**	**6.6200e-003**	**2.7500e-003**	**9.3700e-003**	**0.0000**	**8.3859**	**8.3859**	**2.5100e-003**	**0.0000**	**8.4486**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	6.2200e-003	0.0629	0.0511	1.0000e-004	0.0120	2.9700e-003	0.0150	6.6200e-003	2.7500e-003	9.3700e-003	0.0000	8.3859	8.3859	2.5100e-003	0.0000	8.4486
Maximum	**6.2200e-003**	**0.0629**	**0.0511**	**1.0000e-004**	**0.0120**	**2.9700e-003**	**0.0150**	**6.6200e-003**	**2.7500e-003**	**9.3700e-003**	**0.0000**	**8.3859**	**8.3859**	**2.5100e-003**	**0.0000**	**8.4486**

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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	8-22-2022	9-30-2022	0.0505	0.0505
		Highest	0.0505	0.0505

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	250.5785	7.2229	118.9329	0.0437		1.1234	1.1234		1.1234	1.1234	0.0000	7,000.2556	7,000.2556	0.3132	0.1248	7,045.2851
Energy	4.6514	41.2468	27.9031	0.2537		3.2137	3.2137		3.2137	3.2137	0.0000	49,914.5767	49,914.5767	1.4931	0.8439	50,203.3971
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	9,341.4269	0.0000	9,341.4269	552.0625	0.0000	23,142.9898
Water						0.0000	0.0000		0.0000	0.0000	2,103.1295	452.4579	2,555.5874	216.0828	5.1005	9,477.6057
Total	**255.2299**	**48.4696**	**146.8360**	**0.2974**	**0.0000**	**4.3371**	**4.3371**	**0.0000**	**4.3371**	**4.3371**	**11,444.5564**	**57,367.2901**	**68,811.8465**	**769.9516**	**6.0693**	**89,869.2778**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	250.5785	7.2229	118.9329	0.0437		1.1234	1.1234		1.1234	1.1234	0.0000	7,000.2556	7,000.2556	0.3132	0.1248	7,045.2851
Energy	4.6514	41.2468	27.9031	0.2537		3.2137	3.2137		3.2137	3.2137	0.0000	49,914.5767	49,914.5767	1.4931	0.8439	50,203.3971
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	9,341.4269	0.0000	9,341.4269	552.0625	0.0000	23,142.9898
Water						0.0000	0.0000		0.0000	0.0000	2,103.1295	452.4579	2,555.5874	216.0828	5.1005	9,477.6057
Total	**255.2299**	**48.4696**	**146.8360**	**0.2974**	**0.0000**	**4.3371**	**4.3371**	**0.0000**	**4.3371**	**4.3371**	**11,444.5564**	**57,367.2901**	**68,811.8465**	**769.9516**	**6.0693**	**89,869.2778**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	8/22/2022	8/22/2022	5	1	
2	Site Preparation	Site Preparation	8/23/2022	8/23/2022	5	1	
3	Grading	Grading	8/24/2022	8/24/2022	5	1	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4	Building Construction	Building Construction	8/25/2022	8/25/2022	5	1	
5	Paving	Paving	8/26/2022	8/26/2022	5	1	
6	Architectural Coating	Architectural Coating	8/27/2022	8/29/2022	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	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

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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
Demolition	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7115
Total	**1.3200e-003**	**0.0129**	**0.0103**	**2.0000e-005**		**6.2000e-004**	**6.2000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**1.6995**	**1.6995**	**4.8000e-004**	**0.0000**	**1.7115**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	1.3200e-003	0.0129	0.0103	2.0000e-005		6.2000e-004	6.2000e-004		5.8000e-004	5.8000e-004	0.0000	1.6995	1.6995	4.8000e-004	0.0000	1.7114
Total	**1.3200e-003**	**0.0129**	**0.0103**	**2.0000e-005**		**6.2000e-004**	**6.2000e-004**		**5.8000e-004**	**5.8000e-004**	**0.0000**	**1.6995**	**1.6995**	**4.8000e-004**	**0.0000**	**1.7114**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Demolition - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5900e-003	0.0165	9.8500e-003	2.0000e-005		8.1000e-004	8.1000e-004		7.4000e-004	7.4000e-004	0.0000	1.6720	1.6720	5.4000e-004	0.0000	1.6855
Total	**1.5900e-003**	**0.0165**	**9.8500e-003**	**2.0000e-005**	**9.0300e-003**	**8.1000e-004**	**9.8400e-003**	**4.9700e-003**	**7.4000e-004**	**5.7100e-003**	**0.0000**	**1.6720**	**1.6720**	**5.4000e-004**	**0.0000**	**1.6855**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					9.0300e-003	0.0000	9.0300e-003	4.9700e-003	0.0000	4.9700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5900e-003	0.0165	9.8500e-003	2.0000e-005		8.1000e-004	8.1000e-004		7.4000e-004	7.4000e-004	0.0000	1.6720	1.6720	5.4000e-004	0.0000	1.6855
Total	**1.5900e-003**	**0.0165**	**9.8500e-003**	**2.0000e-005**	**9.0300e-003**	**8.1000e-004**	**9.8400e-003**	**4.9700e-003**	**7.4000e-004**	**5.7100e-003**	**0.0000**	**1.6720**	**1.6720**	**5.4000e-004**	**0.0000**	**1.6855**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0100e-003	0.0000	3.0100e-003	1.6600e-003	0.0000	1.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0194	0.0145	3.0000e-005		8.2000e-004	8.2000e-004		7.5000e-004	7.5000e-004	0.0000	2.7267	2.7267	8.8000e-004	0.0000	2.7488
Total	**1.8100e-003**	**0.0194**	**0.0145**	**3.0000e-005**	**3.0100e-003**	**8.2000e-004**	**3.8300e-003**	**1.6600e-003**	**7.5000e-004**	**2.4100e-003**	**0.0000**	**2.7267**	**2.7267**	**8.8000e-004**	**0.0000**	**2.7488**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0100e-003	0.0000	3.0100e-003	1.6600e-003	0.0000	1.6600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.8100e-003	0.0194	0.0145	3.0000e-005		8.2000e-004	8.2000e-004		7.5000e-004	7.5000e-004	0.0000	2.7267	2.7267	8.8000e-004	0.0000	2.7488
Total	**1.8100e-003**	**0.0194**	**0.0145**	**3.0000e-005**	**3.0100e-003**	**8.2000e-004**	**3.8300e-003**	**1.6600e-003**	**7.5000e-004**	**2.4100e-003**	**0.0000**	**2.7267**	**2.7267**	**8.8000e-004**	**0.0000**	**2.7488**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Grading - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	7.8100e-003	8.1800e-003	1.0000e-005		4.0000e-004	4.0000e-004		3.8000e-004	3.8000e-004	0.0000	1.1586	1.1586	2.8000e-004	0.0000	1.1656
Total	**8.5000e-004**	**7.8100e-003**	**8.1800e-003**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**1.1586**	**1.1586**	**2.8000e-004**	**0.0000**	**1.1656**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.5000e-004	7.8100e-003	8.1800e-003	1.0000e-005		4.0000e-004	4.0000e-004		3.8000e-004	3.8000e-004	0.0000	1.1586	1.1586	2.8000e-004	0.0000	1.1656
Total	**8.5000e-004**	**7.8100e-003**	**8.1800e-003**	**1.0000e-005**		**4.0000e-004**	**4.0000e-004**		**3.8000e-004**	**3.8000e-004**	**0.0000**	**1.1586**	**1.1586**	**2.8000e-004**	**0.0000**	**1.1656**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Building Construction - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-004	5.5600e-003	7.2900e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.6000e-004	2.6000e-004	0.0000	1.0014	1.0014	3.2000e-004	0.0000	1.0095
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-004**	**5.5600e-003**	**7.2900e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**1.0014**	**1.0014**	**3.2000e-004**	**0.0000**	**1.0095**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5000e-004	5.5600e-003	7.2900e-003	1.0000e-005		2.8000e-004	2.8000e-004		2.6000e-004	2.6000e-004	0.0000	1.0014	1.0014	3.2000e-004	0.0000	1.0095
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.5000e-004**	**5.5600e-003**	**7.2900e-003**	**1.0000e-005**		**2.8000e-004**	**2.8000e-004**		**2.6000e-004**	**2.6000e-004**	**0.0000**	**1.0014**	**1.0014**	**3.2000e-004**	**0.0000**	**1.0095**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Paving - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	7.0000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**1.0000e-004**	**7.0000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0000e-004	7.0000e-004	9.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.1277	0.1277	1.0000e-005	0.0000	0.1279
Total	**1.0000e-004**	**7.0000e-004**	**9.1000e-004**	**0.0000**		**4.0000e-005**	**4.0000e-005**		**4.0000e-005**	**4.0000e-005**	**0.0000**	**0.1277**	**0.1277**	**1.0000e-005**	**0.0000**	**0.1279**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Architectural Coating - 2022

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	0.0000	0.0000	0.0000	0.0000	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	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Low Rise	0.00	0.00	0.00		
City Park	0.00	0.00	0.00		
Elementary School	0.00	0.00	0.00		
General Heavy Industry	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Government Office Building	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Single Family Housing	0.00	0.00	0.00		
Strip Mall	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Low Rise	0.00	0.00	0.00	48.40	15.90	35.70	86	11	3
City Park	9.50	7.30	7.30	33.00	48.00	19.00	66	28	6
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	63	25	12

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Heavy Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00	50	34	16
Regional Shopping Center	9.50	7.30	7.30	16.30	64.70	19.00	54	35	11
Single Family Housing	0.00	0.00	0.00	48.40	15.90	35.70	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Low Rise	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
City Park	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
Elementary School	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
General Heavy Industry	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
General Light Industry	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
Government Office Building	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
Regional Shopping Center	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
Single Family Housing	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131
Strip Mall	0.558400	0.056984	0.177680	0.121787	0.018699	0.005186	0.014995	0.021540	0.000643	0.000266	0.020696	0.000992	0.002131

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive 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	3,881.7892	3,881.7892	0.6108	0.0000	3,897.0599
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	3,881.7892	3,881.7892	0.6108	0.0000	3,897.0599
NaturalGas Mitigated	4.6514	41.2468	27.9031	0.2537		3.2137	3.2137		3.2137	3.2137	0.0000	46,032.7875	46,032.7875	0.8823	0.8439	46,306.3373
NaturalGas Unmitigated	4.6514	41.2468	27.9031	0.2537		3.2137	3.2137		3.2137	3.2137	0.0000	46,032.7875	46,032.7875	0.8823	0.8439	46,306.3373

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Low Rise	3.24253e+007	0.1748	1.4941	0.6358	9.5400e-003		0.1208	0.1208		0.1208	0.1208	0.0000	1,730.3385	1,730.3385	0.0332	0.0317	1,740.6211
City Park	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
Elementary School	1.33628e+007	0.0721	0.6550	0.5502	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	713.0899	713.0899	0.0137	0.0131	717.3274
General Heavy Industry	2.98951e+008	1.6120	14.6545	12.3098	0.0879		1.1137	1.1137		1.1137	1.1137	0.0000	15,953.1889	15,953.1889	0.3058	0.2925	16,047.9907
General Light Industry	1.61131e+008	0.8688	7.8986	6.6348	0.0474		0.6003	0.6003		0.6003	0.6003	0.0000	8,598.5392	8,598.5392	0.1648	0.1576	8,649.6360
Government Office Building	2.35946e+007	0.1272	1.1566	0.9715	6.9400e-003		0.0879	0.0879		0.0879	0.0879	0.0000	1,259.0988	1,259.0988	0.0241	0.0231	1,266.5810
Regional Shopping Center	9.82484e+006	0.0530	0.4816	0.4046	2.8900e-003		0.0366	0.0366		0.0366	0.0366	0.0000	524.2908	524.2908	0.0101	9.6100e-003	527.4064
Single Family Housing	3.20709e+008	1.7293	14.7778	6.2884	0.0943		1.1948	1.1948		1.1948	1.1948	0.0000	17,114.2532	17,114.2532	0.3280	0.3138	17,215.9546
Strip Mall	2.62328e+006	0.0142	0.1286	0.1080	7.7000e-004		9.7700e-003	9.7700e-003		9.7700e-003	9.7700e-003	0.0000	139.9882	139.9882	2.6800e-003	2.5700e-003	140.8201
Total		**4.6514**	**41.2468**	**27.9031**	**0.2537**		**3.2137**	**3.2137**		**3.2137**	**3.2137**	**0.0000**	**46,032.7874**	**46,032.7874**	**0.8823**	**0.8439**	**46,306.3373**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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					
Apartments Low Rise	3.24253e+007	0.1748	1.4941	0.6358	9.5400e-003		0.1208	0.1208		0.1208	0.1208	0.0000	1,730.3385	1,730.3385	0.0332	0.0317	1,740.6211
City Park	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
Elementary School	1.33628e+007	0.0721	0.6550	0.5502	3.9300e-003		0.0498	0.0498		0.0498	0.0498	0.0000	713.0899	713.0899	0.0137	0.0131	717.3274
General Heavy Industry	2.98951e+008	1.6120	14.6545	12.3098	0.0879		1.1137	1.1137		1.1137	1.1137	0.0000	15,953.1889	15,953.1889	0.3058	0.2925	16,047.9907
General Light Industry	1.61131e+008	0.8688	7.8986	6.6348	0.0474		0.6003	0.6003		0.6003	0.6003	0.0000	8,598.5392	8,598.5392	0.1648	0.1576	8,649.6360
Government Office Building	2.35946e+007	0.1272	1.1566	0.9715	6.9400e-003		0.0879	0.0879		0.0879	0.0879	0.0000	1,259.0988	1,259.0988	0.0241	0.0231	1,266.5810
Regional Shopping Center	9.82484e+006	0.0530	0.4816	0.4046	2.8900e-003		0.0366	0.0366		0.0366	0.0366	0.0000	524.2908	524.2908	0.0101	9.6100e-003	527.4064
Single Family Housing	3.20709e+008	1.7293	14.7778	6.2884	0.0943		1.1948	1.1948		1.1948	1.1948	0.0000	17,114.2532	17,114.2532	0.3280	0.3138	17,215.9546
Strip Mall	2.62328e+006	0.0142	0.1286	0.1080	7.7000e-004		9.7700e-003	9.7700e-003		9.7700e-003	9.7700e-003	0.0000	139.9882	139.9882	2.6800e-003	2.5700e-003	140.8201
Total		**4.6514**	**41.2468**	**27.9031**	**0.2537**		**3.2137**	**3.2137**		**3.2137**	**3.2137**	**0.0000**	**46,032.7874**	**46,032.7874**	**0.8823**	**0.8439**	**46,306.3373**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	9.81533e+006	113.1739	0.0178	0.0000	113.6191
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	3.65221e+006	42.1112	6.6300e-003	0.0000	42.2768
General Heavy Industry	1.24346e+008	1,433.7545	0.2256	0.0000	1,439.3947
General Light Industry	6.7021e+007	772.7730	0.1216	0.0000	775.8130
Government Office Building	1.61437e+007	186.1419	0.0293	0.0000	186.8741
Regional Shopping Center	7.3339e+006	84.5623	0.0133	0.0000	84.8949
Single Family Housing	1.06389e+008	1,226.6941	0.1930	0.0000	1,231.5198
Strip Mall	1.95819e+006	22.5785	3.5500e-003	0.0000	22.6674
Total		**3,881.7892**	**0.6108**	**0.0000**	**3,897.0599**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Low Rise	9.81533e+006	113.1739	0.0178	0.0000	113.6191
City Park	0	0.0000	0.0000	0.0000	0.0000
Elementary School	3.65221e+006	42.1112	6.6300e-003	0.0000	42.2768
General Heavy Industry	1.24346e+008	1,433.7545	0.2256	0.0000	1,439.3947
General Light Industry	6.7021e+007	772.7730	0.1216	0.0000	775.8130
Government Office Building	1.61437e+007	186.1419	0.0293	0.0000	186.8741
Regional Shopping Center	7.3339e+006	84.5623	0.0133	0.0000	84.8949
Single Family Housing	1.06389e+008	1,226.6941	0.1930	0.0000	1,231.5198
Strip Mall	1.95819e+006	22.5785	3.5500e-003	0.0000	22.6674
Total		**3,881.7892**	**0.6108**	**0.0000**	**3,897.0599**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	250.5785	7.2229	118.9329	0.0437		1.1234	1.1234		1.1234	1.1234	0.0000	7,000.2556	7,000.2556	0.3132	0.1248	7,045.2851
Unmitigated	250.5785	7.2229	118.9329	0.0437		1.1234	1.1234		1.1234	1.1234	0.0000	7,000.2556	7,000.2556	0.3132	0.1248	7,045.2851

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	42.6824					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	203.7113					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6880	5.8796	2.5019	0.0375		0.4754	0.4754		0.4754	0.4754	0.0000	6,809.1538	6,809.1538	0.1305	0.1248	6,849.6172
Landscaping	3.4969	1.3433	116.4310	6.1800e-003		0.6480	0.6480		0.6480	0.6480	0.0000	191.1017	191.1017	0.1827	0.0000	195.6679
Total	**250.5785**	**7.2229**	**118.9329**	**0.0437**		**1.1234**	**1.1234**		**1.1234**	**1.1234**	**0.0000**	**7,000.2556**	**7,000.2556**	**0.3132**	**0.1248**	**7,045.2851**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

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	42.6824					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	203.7113					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.6880	5.8796	2.5019	0.0375		0.4754	0.4754		0.4754	0.4754	0.0000	6,809.1538	6,809.1538	0.1305	0.1248	6,849.6172
Landscaping	3.4969	1.3433	116.4310	6.1800e-003		0.6480	0.6480		0.6480	0.6480	0.0000	191.1017	191.1017	0.1827	0.0000	195.6679
Total	**250.5785**	**7.2229**	**118.9329**	**0.0437**		**1.1234**	**1.1234**		**1.1234**	**1.1234**	**0.0000**	**7,000.2556**	**7,000.2556**	**0.3132**	**0.1248**	**7,045.2851**

7.0 Water Detail

7.1 Mitigation Measures Water

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	2,555.5874	216.0828	5.1005	9,477.6057
Unmitigated	2,555.5874	216.0828	5.1005	9,477.6057

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	154.806 / 97.5951	62.7098	5.0465	0.1191	224.3664
City Park	0 / 1.64424	0.0664	1.0000e-005	0.0000	0.0666
Elementary School	15.574 / 40.0473	7.5287	0.5079	0.0120	23.7967
General Heavy Industry	3339.74 / 0	1,267.9120	108.8581	2.5696	4,755.1064
General Light Industry	1800.07 / 0	683.3860	58.6729	1.3850	2,562.9326
Government Office Building	362.794 / 222.358	146.7063	11.8266	0.2791	525.5543
Regional Shopping Center	68.5912 / 42.0397	27.7368	2.2360	0.0528	99.3631
Single Family Housing	869.285 / 548.028	352.1355	28.3377	0.6688	1,259.8889
Strip Mall	18.3144 / 11.225	7.4060	0.5970	0.0141	26.5308
Total		**2,555.5874**	**216.0828**	**5.1005**	**9,477.6057**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Low Rise	154.806 / 97.5951	62.7098	5.0465	0.1191	224.3664
City Park	0 / 1.64424	0.0664	1.0000e-005	0.0000	0.0666
Elementary School	15.574 / 40.0473	7.5287	0.5079	0.0120	23.7967
General Heavy Industry	3339.74 / 0	1,267.9120	108.8581	2.5696	4,755.1064
General Light Industry	1800.07 / 0	683.3860	58.6729	1.3850	2,562.9326
Government Office Building	362.794 / 222.358	146.7063	11.8266	0.2791	525.5543
Regional Shopping Center	68.5912 / 42.0397	27.7368	2.2360	0.0528	99.3631
Single Family Housing	869.285 / 548.028	352.1355	28.3377	0.6688	1,259.8889
Strip Mall	18.3144 / 11.225	7.4060	0.5970	0.0141	26.5308
Total		**2,555.5874**	**216.0828**	**5.1005**	**9,477.6057**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Fowler GP 2042 - Fresno County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	9,341.4269	552.0625	0.0000	23,142.9898
Unmitigated	9,341.4269	552.0625	0.0000	23,142.9898

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	1092.96	221.8610	13.1116	0.0000	549.6512
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Elementary School	698.22	141.7324	8.3761	0.0000	351.1359
General Heavy Industry	17908.2	3,635.2028	214.8343	0.0000	9,006.0610
General Light Industry	9652.26	1,959.3216	115.7926	0.0000	4,854.1362
Government Office Building	1698.38	344.7558	20.3745	0.0000	854.1179
Regional Shopping Center	972.3	197.3681	11.6641	0.0000	488.9712
Single Family Housing	13736.9	2,788.4625	164.7934	0.0000	6,908.2978
Strip Mall	259.61	52.6985	3.1144	0.0000	130.5583
Total		**9,341.4269**	**552.0625**	**0.0000**	**23,142.9898**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Low Rise	1092.96	221.8610	13.1116	0.0000	549.6512
City Park	0.12	0.0244	1.4400e-003	0.0000	0.0604
Elementary School	698.22	141.7324	8.3761	0.0000	351.1359
General Heavy Industry	17908.2	3,635.2028	214.8343	0.0000	9,006.0610
General Light Industry	9652.26	1,959.3216	115.7926	0.0000	4,854.1362
Government Office Building	1698.38	344.7558	20.3745	0.0000	854.1179
Regional Shopping Center	972.3	197.3681	11.6641	0.0000	488.9712
Single Family Housing	13736.9	2,788.4625	164.7934	0.0000	6,908.2978
Strip Mall	259.61	52.6985	3.1144	0.0000	130.5583
Total		**9,341.4269**	**552.0625**	**0.0000**	**23,142.9898**

9.0 Operational Offroad

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

10.0 Stationary Equipment

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation