

# **Greenhouse Gas Emissions Assessment 435 East 3<sup>rd</sup> Avenue Project**

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## **San Mateo, California**

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**LIST OF ATTACHMENTS**

Attachment A – CalEEMod Output File for Greenhouse Gas Emissions

**LIST OF ACRONYMS AND ABBREVIATIONS**

<b>Term</b>	<b>Description</b>
°F	Degrees Fahrenheit
µg/m3	Micrograms per cubic meter; ppm = parts per million
AB	Assembly Bill
ABAG	Association of Bay Area Governments
AEP	Association of Environmental Planners
AQMD	Air Quality Management District
CalEEMod	California Emissions Estimator Model
CAP	Climate Action Plan

**LIST OF ACRONYMS AND ABBREVIATIONS**

CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CH <sub>4</sub>	Methane
BAAQMD	Bay Area Air Quality Management District
CEQA	California Environmental Quality Act
City	City of San Mateo
CO <sub>2</sub>	Carbon dioxide
CO <sub>2</sub> e	Carbon dioxide equivalent
County	San Mateo County
EO	Executive Order
GHG	Greenhouse gas
GWP	Global warming potential
IPCC	Intergovernmental Panel on Climate Change
ITE	Institute of Transportation Engineers'
MTCO <sub>2</sub> e	Metric Tons of Carbon Dioxide Equivalents
N <sub>2</sub> O	Nitrous oxide
Project	435 East 3 <sup>rd</sup> Avenue Project
RTP	Regional Transportation Plan
SB	Senate Bill
SCS	Sustainable Communities Strategy
SFBAAB	San Francisco Bay Area Air Basin
SR	State Route
TDM	Transportation Demand Management
USEPA	U.S. Environmental Protection Agency
VMT	Vehicle Miles Traveled

## **1.0 INTRODUCTION**

This report documents the results of a Greenhouse Gas (GHG) Emissions Assessment completed for the 435 East 3rd Avenue Project (Project), which includes the demolition of the existing building on site, an approximate 2,700 square foot auto repair shop, and the construction of a new five-story 39,893 square foot mixed-use office/residential building and associated features in the City of San Mateo (City), California. This assessment is based on the methodology recommended by the City of San Mateo and the Bay Area Air Quality Management District (BAAQMD) for project-level review and was prepared with consideration of the emissions reduction actions proposed by the Project. The purpose of this assessment is to estimate Project-generated GHG emissions attributable to the Project and to determine the level of impact the Project would have on the environment.

### **1.1 Project Location**

The approximate 0.25-acre Project Site is located at the intersection of 3<sup>rd</sup> Avenue and South Claremont Street. The Project Site is surrounded by a mix of commercial, residential, and food service uses. More specifically, the Project Site is bounded by a residence and an auto repair shop to the north, South Claremont Street with a market and tax services to the east, 3<sup>rd</sup> Avenue and restaurants to the south, and corporate offices to the west. Structures adjacent to the Project Site range between one and three stories.

### **1.2 Project Description**

The Project proposes the demolition of the existing 2,700 square foot auto repair shop and associated features to make way for the construction of a five-story 39,893 square foot mixed-use office/residential building. The proposed office space, totaling 33,529 square feet, would be contained in the lower four floors of the five-story building. The proposed low-income residences, which are proposed to number five rental units (one studio and five 1-bedroom units), would be concentrated on the fifth floor. The Project is also proposing additional improvements such as sidewalks, curbs/gutters, bicycle racks and street trees.

## 2.0 GREENHOUSE GAS EMISSIONS

### 2.1 Greenhouse Gas Setting

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected back toward space. This absorbed radiation is then emitted from the earth as low-frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. Because the earth has a much lower temperature than the sun, it emits lower-frequency radiation. Most solar radiation passes through GHGs; however, infrared radiation is absorbed by these gases. As a result, radiation that otherwise would have escaped back into space is instead trapped, resulting in a warming of the atmosphere. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate on earth. Without the greenhouse effect, the earth would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect are CO<sub>2</sub>, methane (CH<sub>4</sub>), and N<sub>2</sub>O. Fluorinated gases also make up a small fraction of the GHGs that contribute to climate change. Fluorinated gases include chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride; however, it is noted that these gases are not associated with typical land use development. Human-caused emissions of these GHGs in excess of natural ambient concentrations are believed to be responsible for intensifying the greenhouse effect and leading to a trend of unnatural warming of the earth's climate, known as global climate change or global warming. It is "extremely likely" that more than half of the observed increase in global average surface temperature from 1951 to 2010 was caused by the anthropogenic increase in GHG concentrations and other anthropogenic factors together (Intergovernmental Panel on Climate Change [IPCC] 2014).

Table 3-1 describes the primary GHGs attributed to global climate change, including their physical properties, primary sources, and contributions to the greenhouse effect.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH<sub>4</sub> traps over 25 times more heat per molecule than CO<sub>2</sub>, and N<sub>2</sub>O absorbs 298 times more heat per molecule than CO<sub>2</sub> (IPCC 2014). Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO<sub>2</sub>e), which weight each gas by its global warming potential. Expressing GHG emissions in CO<sub>2</sub>e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule is dependent on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms. Of the total annual human-caused CO<sub>2</sub>

emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere (IPCC 2013).

<b>Table 3-1. Greenhouse Gases</b>	
<b>Greenhouse Gas</b>	<b>Description</b>
CO <sub>2</sub>	Carbon dioxide is a colorless, odorless gas. CO <sub>2</sub> is emitted in a number of ways, both naturally and through human activities. The largest source of CO <sub>2</sub> emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, industrial facilities, and other sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and the use of petroleum-based products can also lead to CO <sub>2</sub> emissions. The atmospheric lifetime of CO <sub>2</sub> is variable because it is so readily exchanged in the atmosphere. <sup>1</sup>
CH <sub>4</sub>	Methane is a colorless, odorless gas and is the major component of natural gas, about 87 percent by volume. It is also formed and released to the atmosphere by biological processes occurring in anaerobic environments. Methane is emitted from a variety of both human-related and natural sources. Human-related sources include fossil fuel production, animal husbandry (intestinal fermentation in livestock and manure management), rice cultivation, biomass burning, and waste management. These activities release significant quantities of CH <sub>4</sub> to the atmosphere. Natural sources of CH <sub>4</sub> include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and other sources such as wildfires. The atmospheric lifetime of CH <sub>4</sub> is about 12 years. <sup>2</sup>
N <sub>2</sub> O	Nitrous oxide is a clear, colorless gas with a slightly sweet odor. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources of N <sub>2</sub> O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuels, adipic acid production, and nitric acid production. N <sub>2</sub> O is also produced naturally from a wide variety of biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N <sub>2</sub> O is approximately 120 years. <sup>3</sup>

Sources: <sup>1</sup>USEPA 2016a, <sup>2</sup>USEPA 2016b, <sup>3</sup>USEPA 2016c

The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; it is sufficient to say the quantity is enormous, and no single project alone would measurably contribute to a noticeable incremental change in the global average temperature or to global, local, or microclimates. From the standpoint of CEQA, GHG impacts to global climate change are inherently cumulative.

### **2.1.1 Sources of Greenhouse Gas Emissions**

In 2021, CARB released the 2021 edition of the California GHG inventory covering calendar year 2019 emissions. In 2019, California emitted 418.2 million gross metric tons of CO<sub>2</sub>e including from imported electricity. Combustion of fossil fuel in the transportation sector was the single largest source of California's GHG emissions in 2019, accounting for approximately 40 percent of total GHG emissions in the State. When emissions from extracting, refining and moving transportation fuels in California are included, transportation is responsible for over 50 percent of statewide emissions in 2019. Continuing the downward trend from 2018, transportation emissions decreased 3.5 million metric tons of CO<sub>2</sub>e in 2019,

only being outpaced by electricity, which reduced emissions by 4.3 million metric tons of CO<sub>2</sub>e in 2019. Emissions from the electricity sector account for 14 percent of the inventory and have shown a substantial decrease in 2019 due to increases in renewables. California's industrial sector accounts for the second largest source of the State's GHG emissions in 2019, accounting for 21 percent (CARB 2021).

## **2.2 Regulatory Framework**

### **2.2.1 State**

#### **2.2.1.1 Executive Orders S-3-05 and B-30-15**

Executive Order (EO) S-3-05, signed by Governor Arnold Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada snowpack, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the EO established total GHG emission targets for the State. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80 percent below the 1990 level by 2050.

On April 20, 2015 Governor Brown signed EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's executive order aligns California's GHG reduction targets with those of leading international governments such as the European Union, which adopted the same target in October 2014. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 degrees Celsius, the warming threshold at which major climate disruptions are projected, such as super droughts and rising sea levels.

#### **2.2.1.2 Assembly Bill 32 Climate Change Scoping Plan and Updates**

In 2006, the California legislature passed Assembly Bill (AB) 32 (Health and Safety Code § 38500 et seq., or AB 32), also known as the Global Warming Solutions Act. AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every five years. The latest update, the 2017 Scoping Plan Update, addresses the 2030 target established by Senate Bill (SB) 32 as discussed below and establishes a proposed framework of action for California to meet a 40 percent reduction in GHG emissions by 2030 compared to 1990 levels. The key programs that the Scoping Plan Update builds on include increasing the use of renewable energy in the State, the Cap-and-Trade Regulation, the Low Carbon Fuel Standard, and reduction of methane emissions from agricultural and other wastes.

### **2.2.1.3 Senate Bill 32 and Assembly Bill 197 of 2016**

In August 2016, Governor Brown signed SB 32 and AB 197, which serve to extend California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include § 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EOs S-3-05 and B-30-15 of 80 percent below 1990 emissions levels by 2050.

### **2.2.1.4 Senate Bill 100 of 2018**

In 2018, SB 100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

### **2.2.1.5 2019 Building Energy Efficiency Standards for Residential and Nonresidential Buildings**

The Building and Efficiency Standards (Energy Standards) were first adopted and put into effect in 1978 and have been updated periodically in the intervening years. These standards are a unique California asset that have placed the State on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. The most significant efficiency improvement to the residential Standards include the introduction of photovoltaic into the perspective package, improvements for attics, walls, water heating and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards.

In 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (Part 11 of Title 24) is commonly referred to as CalGreen Building Standard (CalGreen) and establishes voluntary and mandatory standards pertaining to the planning and design of sustainable site development, energy efficiency, water conservation, material conservation, and interior air quality. Like Part 6 of Title 24, the CalGreen standards are periodically updated, with increasing energy savings and efficiencies associated with each code update. CalGreen contains voluntary "Tier 1" and "Tier 2" standards that are not mandatory statewide but could be required by a City or County. These are 'reach' standards that can be adopted by local jurisdictions and may be incorporated as mandatory standards in future code cycles.



## **2.2.2 Local**

### **2.2.2.1 Bay Area Air Quality Management District**

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, BAAQMD CEQA Guidelines include guidance on assessing GHGs and climate change impacts as required under CEQA Section 15183.5(b). On April 20, 2022, the Draft Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans (2022) was adopted. This document presents a project-level operational threshold of significance for GHG emissions based on compliance with a Qualified GHG Reduction Strategy or adherence to a suite of BAAQMD performance standards for land uses projects directly related to building design, transportation and consistency with the CEQA Guidelines Section 15183.5(b).

### **2.2.2.2 Association of Bay Area Governments (ABAG) Final Plan Bay Area 2050**

The ABAG Plan Bay Area 2050 is the Regional Transportation Plan (RTP) and Sustainable Communities Strategy (SCS) for the San Francisco Bay Area. Plan Bay Area 2050 estimates a 22 percent reduction of automotive GHG emissions by 2035 compared to 2005. The region's applicable GHG per capita emissions target, mandated by CARB, is a 19 percent reduction for 2035, compared to 2005. Plan Bay Area 2050 establishes means of establishing GHG reduction goals through transportation improvements, including a clean vehicle feebate and targeted transportation alternatives. According to ABAG, the San Francisco Bay Area will exceed the mandated GHG reduction target of 19 percent for 2035 by implementing Plan Bay Area.

### **2.2.2.3 BAAQMD 2017 Clean Air Plan**

The 2017 Clean Air Plan (BAAQMD 2017b) provides a regional strategy with the goal of protecting public health and protecting the climate. The 2017 Clean Air Plan is consistent with the California GHG reduction goals. To protect the climate, the 2017 Clean Air Plan defines a vision for transitioning the region to a "post-carbon economy" without fossil fuel combustion, as needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 Clean Air Plan includes numerous control measures designed to reduce GHG emissions from stationary and transportation sources. The plan lays the framework for reducing Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050.

### **2.2.2.4 The City of San Mateo (City) Climate Action Plan**

The City adopted an updated community-wide Climate Action Plan (CAP) in April 2020, which updates and consolidated the various City's GHG reduction efforts based on the vision of San Mateo residents, businesses, and local government. The CAP provides the framework for San Mateo to reduce its community-wide GHG emissions in a manner consistent with state reduction targets and goals for 2030 and 2050. The CAP was prepared consistent with the California Environmental Quality Act (CEQA)

Guidelines for Plans for the Reduction of Greenhouse Gas Emissions (CCR 15183.5). This allows the 2020 CAP to support (and possibly streamline) environmental review of GHG emissions related to future development projects within the City. The 2020 CAP is a direct update to the 2015 CAP. The 2020 CAP analyzes San Mateo's progress to date in meeting its GHG reduction targets and contains new information to achieve more significant and longer-term GHG reductions.

A CAP is a comprehensive strategy for a community to reduce emissions of GHGs, which, according to scientific consensus, are primarily responsible for causing climate change. The CAP identifies a strategy, reduction measures, and implementation actions the City will use to achieve targets consistent with state recommendations of 4.3 metric tons of CO<sub>2</sub>e (MTCO<sub>2</sub>e) per person by 2030 and 1.2 MTCO<sub>2</sub>e per person by 2050. The City CAP includes five key pieces:

1. An inventory of the annual GHG emissions attributable to San Mateo based on the types of activities occurring within the community and guidance from various protocols and agencies.
2. A forecast of what GHG emissions are likely to look like in 2030 and 2050 based on expected population and economic growth as predicted in the City's General Plan; with the consideration of major CO<sub>2</sub>e emission reduction policies.
3. A reduction target, which identifies goals for reducing GHG emissions by 2030 and 2050.
4. Reduction strategies, which describe the actions the community intends to take to achieve the reduction target. Each strategy identifies the amount of GHGs that will be reduced once the strategy is implemented. The CAP also estimates benefits of existing programs.
5. An implementation and monitoring program to track progress toward the reduction target and the status of the reduction strategies. A CAP consistency checklist for future development projects is included in the implementation program.

## **2.3 Greenhouse Gas Emissions Impact Assessment**

### **2.3.1 Thresholds of Significance**

The impact analysis provided below is based on the following CEQA Guidelines Appendix G thresholds of significance. The Project would result in a significant impact to GHG emissions if it would:

- 1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- 2) Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases or

The Appendix G thresholds for GHG emissions do not prescribe specific methodologies for performing an assessment, do not establish specific thresholds of significance, and do not mandate specific mitigation measures. Rather, the CEQA Guidelines emphasize the lead agency's discretion to determine the appropriate methodologies and thresholds of significance consistent with the manner in which other impact areas are handled in CEQA. With respect to GHG emissions, the CEQA Guidelines Section

15064.4(a) states that lead agencies “shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate” GHG emissions resulting from a project. The CEQA Guidelines note that an agency has the discretion to either quantify a project’s GHG emissions or rely on a “qualitative analysis or other performance-based standards.” (14 CCR 15064.4(b)). A lead agency may use a “model or methodology” to estimate GHG emissions and has the discretion to select the model or methodology it considers “most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change.” (14 CCR 15064.4(c)). Section 15064.4(b) provides that the lead agency should consider the following when determining the significance of impacts from GHG emissions on the environment:

1. The extent a project may increase or reduce GHG emissions as compared to the existing environmental setting.
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions (14 CCR 15064.4(b)).

In addition, Section 15064.7(c) of the CEQA Guidelines specifies that “[w]hen adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence” (14 CCR 15064.7(c)). The CEQA Guidelines also clarify that the effects of GHG emissions are cumulative and should be analyzed in the context of CEQA’s requirements for cumulative impact analysis (see CEQA Guidelines Section 15130). As a note, the CEQA Guidelines were amended in response to Senate Bill 97. In particular, the CEQA Guidelines were amended to specify that compliance with a GHG emissions reduction plan renders a cumulative impact insignificant.

Per CEQA Guidelines Section 15064(h)(3), a project’s incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include a “water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions.” Put another way, CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions.

The local air quality agency regulating the SFBAAB is the BAAQMD, the regional air pollution control officer for the basin. As previously stated, BAAQMD CEQA Guidelines include guidance on assessing GHGs

and climate change impacts as required under CEQA Section 15183.5(b) and establish thresholds of significance for impacts related to GHG emissions. The City has determined, in its discretion, that the BAAQMD recommended GHG significance thresholds are based on substantial evidence to “attribute an appropriate share of GHG reductions necessary to reach statewide reduction goals to new land use development projects in the BAAQMD’s jurisdiction that are evaluated pursuant to CEQA” (BAAQMD 2017a). Therefore, the City uses the BAAQMD CEQA Guidelines to determine the level of impact from the project contributions of GHG emissions.

As previously described, BAAQMD’s Draft Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans presents a project-level operational threshold of significance for GHG emissions based on compliance with a Qualified GHG Reduction Strategy or adherence to a suite of BAAQMD performance standards for land uses projects directly related to building design, transportation and consistency with the CEQA Guidelines Section 15183.5(b). The City CAP is a Qualified GHG Reduction Strategy. The 2020 City CAP is the most recent update after the 2015 CAP and is written to align with the goals of SB 32. The CAP addresses estimate emissions beyond 2020, as informed by the post-2020 GHG reduction targets of SB 32 and EO S-3-05. Specifically, the City set emission reduction goals of 15 percent below 2005 emissions levels by 2020, 4.3 MTCO<sub>2</sub>e per person by 2030, and 1.2 MTCO<sub>2</sub>e per person by 2050. Therefore, Project compliance with the CAP adequately establishes Project compliance with statewide GHG reduction goals for the year 2030 associated with SB 32, and with statewide GHG reduction goals for the years beyond 2030.

### **2.3.2 Methodology**

GHG emissions-related impacts were assessed in accordance with methodologies recommended by the BAAQMD and the City of San Mateo. Where GHG emission quantification was required, emissions were modeled using CalEEMod, version 2020.4.0. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction generated GHG emissions were calculated using CalEEMod model defaults for San Mateo County. Operational GHG emissions were based on CalEEMod model defaults for San Mateo County, the Project Site plans, and traffic trip generation rates identified by David J. Powers and Associates (2022). For the purposes of this analysis, projected operational emissions associated with proposed operations are compared to the existing baseline, which includes a 2,700 square foot auto repair shop.

### **2.3.3 Impact Analysis**

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project Site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3-2 illustrates the specific construction generated GHG emissions that would result from construction of the Project. Once construction is complete, the generation of these GHG emissions would cease.

<b>Table 3-2. Construction-Related Greenhouse Gas Emissions</b>	
<b>Emissions Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
Construction Year 1	135
<b>Total Construction Emissions</b>	<b>135</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-2, Project construction would result in the generation of approximately 135 MTCO<sub>2</sub>e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. As previously stated, there are no adopted threshold of significance for construction-related GHG emissions. GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower (hp) and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wisconsin, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 hp and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which were phased in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later will be manufactured to Tier 4 standards.

In addition, the California Energy Commission recently released the 2019 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code). Both the 2016 and 2019 updates to the Building Energy Efficiency Standards focus on several key areas to improve the energy efficiency of newly constructed buildings and additions, and alterations to existing buildings. For instance, effective January 1, 2017, owners/builders of construction projects have been required to divert (recycle) 65 percent of construction waste materials generated during the project construction phase. This requirement greatly reduces the generation of GHG emissions by reducing decomposition at landfills, which is a source of CH<sub>4</sub>, and reducing demand for natural resources.

Operation of the Project would result in GHG emissions. Projected GHG emissions associated with proposed operations are quantified and compared to the existing baseline, which, as previously stated, includes a 2,700-square foot auto repair shop. Table 3-3 summarizes all the direct and indirect annual GHG emissions associated with the Project.

<b>Table 3-3. Operational-Related Greenhouse Gas Emissions</b>	
<b>Emission Source</b>	<b>CO<sub>2</sub>e (Metric Tons/ Year)</b>
<b>Proposed Project</b>	
Area Source	0
Energy	0
Mobile	203
Waste	16
Water	6
<b>Total</b>	<b>225</b>
<b>Existing Onsite Land Uses</b>	
Area Source	0
Energy	3
Mobile	27
Waste	5
Water	0
<b>Total</b>	<b>35</b>
<b>Difference</b>	
Area Source	0
Energy	-3
Mobile	+176
Waste	+11
Water	-6
<b>Total</b>	<b>+178</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

Notes: Emission projections predominately based on CalEEMod model defaults for San Mateo County. Emissions projections account for baseline and Project trip generation rates identified by David J. Powers and Associates (2022).

As shown in Table 3-3, the increase in operational GHG emissions over the existing baseline would be 178 MTCO<sub>2</sub>e per year as a result of the Project.

### **2.3.3.1 Generation of Greenhouse Gas Emissions Resulting in Conflicts with any Applicable Plan, Policy, or Regulation of an Agency Adopted for the Purpose of Reducing the Emissions of Greenhouse Gases**

#### City of San Mateo Climate Action Plan

The City CAP (2020) is the most recent update to the prior 2015 City CAP. The CAP is a strategic planning document that identifies sources of GHG emissions within the City's boundaries, presents current and future emissions estimates, identifies a GHG reduction target for future years, and presents strategic programs, policies, and projects to reduce emissions from the energy, transportation, land use, water use, and waste sectors. The CAP includes GHG reduction measures in the form of GHG reduction programs, policies, projects, and strategies. The BAAQMD Qualified Greenhouse Gas Emissions Reduction Program criteria, in conjunction with the BAAQMD's CEQA Guidelines (2017a), guided the development of the emissions reduction program developed by the City. All three guidelines comply with the requirements of statewide GHG-reduction targets and achieve the goals of the Scoping Plan.

As previously stated, the 2020 City CAP is written to align with the goals of SB 32, which codified the statewide GHG emission reduction goal established by EO B-30-15 of at least 40 percent below 1990 levels no later than December 31, 2030. Specifically, the City has set a per capita emission rate of 4.3 MTCO<sub>2</sub>e per person by 2030. Therefore, to show consistency with the CAP the Project is compared to the threshold of 4.3 metric tons of CO<sub>2</sub>e per Project service population (Project Population) per year by 2030. This approach is used to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. An advantage of the service population approach is its application to both residential land uses and employment-oriented land uses. The per capita or per service population metrics represent the rates of emissions needed to achieve a fair share of the state's emission reduction mandate. The use of "fair share" in this instance indicates the GHG efficiency level that, if applied statewide or to a defined geographic area, would meet the 2030 emissions targets. The intent of SB 32 is to accommodate population and economic growth in California but to do so in a way that achieves a lower rate of GHG emissions, as evidenced in the statement from CARB's Scoping Plan. If projects can achieve targeted rates of emissions per the sum of residents plus jobs (i.e., service population), California can accommodate expected population growth and achieve economic development objectives, while also abiding by SB 32's emissions target.

The majority of population that would be visiting the Project would be employees that work at the Project Site followed by a smaller number of residents that live at the Project Site (Project Population). Per the Project applicant, the Project is expected to accommodate 13 residents and 111 employees (13 residents + 111 employees = 124 service population). As shown in Table 3-4, dividing the GHG emissions by the Project service population yields a metric ton per service population ratio of 1.81.

<b>Table 3-4. Greenhouse Gas Emissions per Service Population</b>				
<b>Project Emissions</b>	<b>Service Population (Residents + Employees)</b>	<b>Metric Tons of CO<sub>2</sub>e/SP/Year</b>	<b>CAP Threshold</b>	<b>Exceed Threshold?</b>
225	124	1.81	4.3	<b>No</b>

Source: CalEEMod version 2020.4.0. Refer to Attachment A for Model Data Outputs.

As shown in Table 3-4, the Proposed Project would not surpass the CAP's efficiency-based significance thresholds. As such, the Project would be consistent with the City's CAP.

### BAAQMD Plan 2017 Clean Air Plan

The 2017 Clean Air Plan (BAAQMD 2017b) provides a regional strategy to protect public health and protect the climate. The 2017 Clean Air Plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious GHG reduction targets for 2030 and 2050 and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG emissions reduction targets. The 2017 Clean Air Plan includes a wide range of control measures designed to reduce emissions of CH<sub>4</sub> and other 'super GHGs' in the near term, and to decrease emissions of CO<sub>2</sub> by reducing fossil-fuel combustion.

The 2017 Clean Air Plan includes a diverse range of control measures designed to decrease GHG emissions. Consistency of the Proposed Project with 2017 Clean Air Plan is demonstrated by assessing whether the Project supports all of the Project-applicable Clean Air Plan control measures for GHG emissions. The GHG-related control strategies of the Clean Air Plan include *Mobile Source Measures*, *Transportation Control Measures* and *Energy and Climate Measures*.

Note, the *Land Use and Local Impact Measures* of the 2017 Clean Air Plan address the exposure of sensitive receptors to toxic air contaminants and is thereby not applicable to this impact discussion of GHG emissions. Additionally, the *Stationary Source Measures* in the Clean Air Plan such as those implemented to control emissions from metal melting facilities, cement kilns, refineries, and glass furnaces are not applicable to the Proposed Project.

### ***Transportation and Mobile Source Control Measures***

The BAAQMD identifies transportation and mobile source control measures as part of the Clean Air Plan to reduce emissions from these sources. The transportation control measures are designed to reduce emissions from motor vehicles by reducing vehicle trips and VMT in addition to vehicle idling and traffic congestion. The Proposed Project is consistent with the Clean Air Plan's transportation and mobile source control measures in that it is the redevelopment of an existing urban environment. The Project is considered "infill development" as it proposes to redevelop a build-out property and enhance the physical design of the urban environment. Under Public Resources Code (PRC) section 21061.3, an "infill site" is defined as a site that "has been previously developed for qualified urban uses." In turn, a "qualified urban



use” is defined, pursuant to PRC section 21072, as “a residential, commercial, or public institutional, transit or transportation passenger facility, or retail use, or any combination of those uses.” Additionally, the Project Site is located in an “urbanized area,” which is defined under PRC section 21071 as “an incorporated city” that meets the criteria of having a population of at least 100,000 persons.

The Proposed Project would be located in close proximity to a Caltrain station, which is located less than 0.25 mile to the northwest of the site. At this location, Caltrain provides for local, limited and Baby Bullet service. There are two bus stops in close proximity to the Project Site, one on South Claremont Street and 2<sup>nd</sup> Avenue and the other on South Delaware Street and 3<sup>rd</sup> Avenue. The public transit accessibility would result in fewer vehicle trips and VMT compared to the statewide average and encourage walking and non-automotive forms of transportation, thus resulting in the reduction of, or no increase in, transportation-related emissions. The Project would also provide short-term and long-term bike storage.

Pedestrian access to the Project Site would be provided via sidewalks along South Claremont Street and 3<sup>rd</sup> Avenue. The Proposed Project would provide convenient accessibility to nearby retail shops, restaurants, markets, and more. These places of commerce and employment are conveniently located for the future residents of the Proposed Project to access via walking, biking, or a short vehicle trip, which will further reduce VMT. Additionally, the Project would include on-site office jobs within an area built with large numbers of residential uses, notably to the south of the Project.

These aspects of the Project would result in the generation of a reduced amount of GHG emissions. According to the U.S. Environmental Protection Agency (USEPA), redevelopments (namely at brownfield sites such as the Project Site) produce 32 to 57 percent less emissions per capita relative to conventional developments (USEPA 2011); this is because the number of daily vehicle trips and daily VMT associated with the redevelopment tend to be lower compared with development on vacant land. As a result, the Proposed Project would not conflict with the identified transportation and mobile source control measures of the Clean Air Plan.

### ***Land Use and Local Impact Measures***

The BAAQMD Clean Air Plan includes *Land Use and Local Impact Measures* to ensure that planned growth is focused in a way that protects the people and environment from exposure of emissions associated with stationary and mobile sources and to promote mixed-use, compact development to reduce motor vehicle travel. The *Land Use and Local Impact Measures* identified by the BAAQMD are not specifically applicable to the Proposed Project as they relate to actions the BAAQMD will take to reduce impacts from goods movement and health risks in affected communities at the plan level. The measures also detail new regulatory actions the BAAQMD will undertake related to land use, including updates to the CEQA Air Quality Guidelines, and indirect source review.

However, the Proposed Project would be a redevelopment infill Project in support of these measures. For instance, the Project can be identified for its “location efficiency.” Location efficiency describes the location of the Project relative to the type of urban landscape its proposed to fit within, such as an “urban area,” “compact infill,” or “suburban center.” The Project site represents an urban/compact infill location within an area of the city developed with residential and commercial uses. The Project site is served by existing public transportation as previously described; it is within an active urban center surrounded with

many existing offsite office, commercial, and residential buildings. The Project would locate additional residential land uses in close proximity to existing offsite office, commercial, and residential uses. Therefore, the Project would provide future Project residents with the potential work opportunities and commercial service options in close proximity to the site. Additionally, the Project would locate potential employment opportunities for residents already living in the vicinity. The location efficiency of the Project site would result in synergistic benefits that would reduce vehicle trips and VMT compared to the statewide average and would result in corresponding reduction of transportation related GHG emissions.

The Project would increase housing density in the vicinity over current conditions. Increased density reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies to reduce GHG emissions.

### ***Energy and Climate Control Measures***

The Clean Air Plan also includes Energy and Climate Control Measures, which are designed to reduce ambient concentrations of emissions of CO<sub>2</sub>. Implementation of these measures is intended to promote energy conservation and efficiency in buildings throughout the community, promote renewable forms of energy production, reduce the “urban heat island” effect by increasing reflectivity of roofs and parking lots, promote the planting of (low volatile organic compound-emitting) trees to reduce biogenic emissions, lower air temperatures, provide shade, and absorb air pollutants. The measures include voluntary approaches to reduce the heat-island effect by increasing shade in urban and suburban areas through the planting of trees. The Proposed Project would increase landscaping throughout the Project Site which would help reduce the urban heat-island effect.

The Project is consistent with the 2017 Clean Air Plan. The Proposed Project would conform to the Project-applicable control measures in the Clean Air Plan and would not disrupt or hinder the implementation of any other control measures.

### **ABAG Final Plan Bay Area 2050**

ABAG’s Plan Bay Area is the RTP/SCS for the San Francisco Bay Area. Plan Bay Area establishes GHG emissions goals for automobiles and light-duty trucks, a potent source of GHG emissions attributable to land use development. As previously described, ABAG was tasked by CARB to achieve a 19 percent reduction of passenger car and light truck automotive GHG emissions by 2035 compared to 2005. Plan Bay Area 2050 establishes an overall mechanism to achieve these GHG targets for the Project region consistent with the target date of SB 32. According to ABAG, the San Francisco Bay Area will exceed the mandated GHG reduction target of 19 percent for 2035 by implementing Plan Bay Area.

The RTP/SCS contains thousands of individual transportation projects, including highway improvements, railway electrification, bicycle lanes, new transit hubs, and replacement bridges. These future investments seek to reduce traffic bottlenecks, improve the efficiency of the region’s network, and expand mobility choices. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal Clean Air

Act requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently.

Plan Bay Area 2050's core strategy is "focused growth" in existing communities along the existing transportation network. This strategy allows the best "bang for the buck" in achieving key regional economic, environmental, and equity goals: it builds upon existing community characteristics, efficiently leverages existing infrastructure, and mitigates impacts on areas with less development. Plan Bay Area 2050's Growth Geographies identify a mix of locally identified Priority Development Areas, areas near high quality transit and areas of high opportunity as communities poised to accommodate additional growth. Priority Development Areas are defined as areas generally near existing job centers or frequent transit that are locally identified (i.e., identified by towns, cities or counties) for housing and job growth. Meanwhile, Plan Bay Area 2050 identifies areas outside of the existing urban footprint or in areas that are at a very high risk of wildfire as areas where additional construction should be deprioritized.

The Project Site is located in an area identified as the "San Mateo Downtown Priority Development Area" in Plan Bay Area 2050 (ABAG 2020). Therefore, Plan Bay Area 2050 considers the Project location to be included in an area near high-quality transit and within a communities poised to accommodate additional growth, and therefore encourages urban growth in the Project Area. Furthermore, the Project is proposed within a built environment (infill development). The Project will increase density and land use diversity in the vicinity over current conditions. Increased density, measured in terms of persons, jobs, or building square footage, as well as increased land use diversity, potentially reduces emissions associated with transportation as it reduces the distance people travel for work or services and provides a foundation for the implementation of other strategies such as enhanced transit services. The Project would increase the site density from 2,700 total square feet of commercial space to 39,893 total square feet of mixed-use residential-office building space.

For these reasons, the Project is consistent with Plan Bay Area. Based on the Project's proximity to public transportation, availability of bike storage space and proximity to retail stores, it can be assumed that regional mobile emissions will decrease in line with the goals of Plan Bay Area with implementation of the Proposed Project. Implementing ABAG's RTP/SCS will greatly reduce the regional GHG emissions from transportation, and the Proposed Project will not obstruct the achievement of Plan Bay Area's emission reduction targets.

### 3.0 REFERENCES

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## **LIST OF ATTACHMENTS**

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Attachment A – CalEEMod Output File for Greenhouse Gas Emissions

CalEEMod Output Files – Greenhouse Gas Emissions

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

**435 East 3rd Avenue  
San Mateo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	33.53	1000sqft	0.20	33,529.00	0
Apartments Mid Rise	5.00	Dwelling Unit	0.05	6,344.00	14

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	70
<b>Climate Zone</b>	5			<b>Operational Year</b>	2024
<b>Utility Company</b>	Peninsula Clean Energy				
<b>CO2 Intensity (lb/MWhr)</b>	0	<b>CH4 Intensity (lb/MWhr)</b>	0	<b>N2O Intensity (lb/MWhr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Lot acreage updated to match the project

Construction Phase - Building construction, paving and painting assumed to occur simultaneously

Demolition -

Woodstoves - No woodstoves or fireplaces

Energy Use - No natural gas per CAP

Mobile Land Use Mitigation -

Area Mitigation -

Water Mitigation -

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

Vehicle Trips - Trips updated to match traffic report

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	NumDays	5.00	100.00
tblConstructionPhase	PhaseEndDate	11/22/2022	8/4/2023
tblConstructionPhase	PhaseEndDate	11/8/2022	8/4/2023
tblConstructionPhase	PhaseEndDate	6/16/2022	3/14/2023
tblConstructionPhase	PhaseEndDate	6/21/2022	3/17/2023
tblConstructionPhase	PhaseEndDate	11/15/2022	8/4/2023
tblConstructionPhase	PhaseEndDate	6/17/2022	3/15/2023
tblConstructionPhase	PhaseStartDate	11/16/2022	3/18/2023
tblConstructionPhase	PhaseStartDate	6/22/2022	3/18/2023
tblConstructionPhase	PhaseStartDate	6/3/2022	3/1/2023
tblConstructionPhase	PhaseStartDate	6/18/2022	3/16/2023
tblConstructionPhase	PhaseStartDate	11/9/2022	3/18/2023
tblConstructionPhase	PhaseStartDate	6/17/2022	3/15/2023
tblEnergyUse	NT24NG	2,615.00	0.00
tblEnergyUse	NT24NG	1.01	0.00
tblEnergyUse	T24NG	5,828.01	0.00
tblEnergyUse	T24NG	18.14	0.00
tblFireplaces	FireplaceDayYear	11.14	0.00
tblFireplaces	FireplaceHourDay	3.50	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	0.75	0.00
tblFireplaces	NumberNoFireplace	0.20	0.00
tblFireplaces	NumberWood	0.85	0.00
tblLandUse	LandUseSquareFeet	5,000.00	6,344.00
tblLandUse	LotAcreage	0.77	0.20
tblLandUse	LotAcreage	0.13	0.05



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

tblVehicleTrips	ST_TR	4.91	5.44
tblVehicleTrips	ST_TR	2.21	10.82
tblVehicleTrips	SU_TR	4.09	5.44
tblVehicleTrips	SU_TR	0.70	10.82
tblVehicleTrips	WD_TR	9.74	10.82
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

**2.0 Emissions Summary**

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**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)
3	12-3-2022	3-2-2023	0.0048	0.0048
4	3-3-2023	6-2-2023	0.5739	0.5739
5	6-3-2023	9-2-2023	0.4376	0.4376
		Highest	0.5739	0.5739

**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1788	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1515	0.1431	1.4685	3.0700e-003	0.3409	2.0200e-003	0.3429	0.0911	1.8700e-003	0.0929	0.0000	283.1887	283.1887	0.0191	0.0125	287.3821
Waste						0.0000	0.0000		0.0000	0.0000	6.7961	0.0000	6.7961	0.4016	0.0000	16.8371
Water						0.0000	0.0000		0.0000	0.0000	1.9940	0.0000	1.9940	0.2048	4.8400e-003	8.5552
<b>Total</b>	<b>0.3303</b>	<b>0.1435</b>	<b>1.5059</b>	<b>3.0700e-003</b>	<b>0.3409</b>	<b>2.2300e-003</b>	<b>0.3431</b>	<b>0.0911</b>	<b>2.0800e-003</b>	<b>0.0931</b>	<b>8.7901</b>	<b>283.2499</b>	<b>292.0401</b>	<b>0.6256</b>	<b>0.0173</b>	<b>312.8372</b>

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**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	0.1788	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1295	0.1110	1.1449	2.1800e-003	0.2386	1.4900e-003	0.2401	0.0637	1.3900e-003	0.0651	0.0000	200.6875	200.6875	0.0156	9.7500e-003	203.9843
Waste						0.0000	0.0000		0.0000	0.0000	6.7961	0.0000	6.7961	0.4016	0.0000	16.8371
Water						0.0000	0.0000		0.0000	0.0000	1.5952	0.0000	1.5952	0.1638	3.8700e-003	6.8441
<b>Total</b>	<b>0.3083</b>	<b>0.1114</b>	<b>1.1823</b>	<b>2.1800e-003</b>	<b>0.2386</b>	<b>1.7000e-003</b>	<b>0.2403</b>	<b>0.0637</b>	<b>1.6000e-003</b>	<b>0.0653</b>	<b>8.3913</b>	<b>200.7487</b>	<b>209.1401</b>	<b>0.5811</b>	<b>0.0136</b>	<b>227.7283</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
<b>Percent Reduction</b>	<b>6.66</b>	<b>22.37</b>	<b>21.48</b>	<b>28.99</b>	<b>30.00</b>	<b>23.77</b>	<b>29.96</b>	<b>29.99</b>	<b>23.08</b>	<b>29.85</b>	<b>4.54</b>	<b>29.13</b>	<b>28.39</b>	<b>7.10</b>	<b>21.32</b>	<b>27.21</b>

**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	3/1/2023	3/14/2023	5	10	
2	Site Preparation	Site Preparation	3/15/2023	3/15/2023	5	1	
3	Grading	Grading	3/16/2023	3/17/2023	5	2	

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

4	Building Construction	Building Construction	3/18/2023	8/4/2023	5	100
5	Paving	Paving	3/18/2023	8/4/2023	5	100
6	Architectural Coating	Architectural Coating	3/18/2023	8/4/2023	5	100

**Acres of Grading (Site Preparation Phase): 0.5**

**Acres of Grading (Grading Phase): 1.5**

**Acres of Paving: 0**

**Residential Indoor: 12,847; Residential Outdoor: 4,282; Non-Residential Indoor: 50,294; Non-Residential Outdoor: 16,765; Striped Parking Area: 0 (Architectural Coating – sqft)**

**OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Grading	Graders	1	6.00	187	0.41
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Grading	Rubber Tired Dozers	1	6.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Grading	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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

**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	4	10.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	14.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	3.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

**3.2 Demolition - 2023**

**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					1.3300e-003	0.0000	1.3300e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
<b>Total</b>	<b>3.2300e-003</b>	<b>0.0289</b>	<b>0.0370</b>	<b>6.0000e-005</b>	<b>1.3300e-003</b>	<b>1.4100e-003</b>	<b>2.7400e-003</b>	<b>2.0000e-004</b>	<b>1.3500e-003</b>	<b>1.5500e-003</b>	<b>0.0000</b>	<b>5.2091</b>	<b>5.2091</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>5.2328</b>

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

**3.2 Demolition - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	9.4000e-004	3.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4088	0.4088	4.0000e-005	7.0000e-005	0.4294
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	7.0000e-005	9.7000e-004	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.2926	0.2926	1.0000e-005	1.0000e-005	0.2949
<b>Total</b>	<b>1.2000e-004</b>	<b>1.0100e-003</b>	<b>1.2800e-003</b>	<b>0.0000</b>	<b>4.9000e-004</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>1.3000e-004</b>	<b>1.0000e-005</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.7013</b>	<b>0.7013</b>	<b>5.0000e-005</b>	<b>8.0000e-005</b>	<b>0.7244</b>

**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					1.3300e-003	0.0000	1.3300e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2300e-003	0.0289	0.0370	6.0000e-005		1.4100e-003	1.4100e-003		1.3500e-003	1.3500e-003	0.0000	5.2091	5.2091	9.5000e-004	0.0000	5.2328
<b>Total</b>	<b>3.2300e-003</b>	<b>0.0289</b>	<b>0.0370</b>	<b>6.0000e-005</b>	<b>1.3300e-003</b>	<b>1.4100e-003</b>	<b>2.7400e-003</b>	<b>2.0000e-004</b>	<b>1.3500e-003</b>	<b>1.5500e-003</b>	<b>0.0000</b>	<b>5.2091</b>	<b>5.2091</b>	<b>9.5000e-004</b>	<b>0.0000</b>	<b>5.2328</b>

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

**3.2 Demolition - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	9.4000e-004	3.1000e-004	0.0000	1.0000e-004	1.0000e-005	1.1000e-004	3.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.4088	0.4088	4.0000e-005	7.0000e-005	0.4294
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	7.0000e-005	9.7000e-004	0.0000	3.9000e-004	0.0000	4.0000e-004	1.0000e-004	0.0000	1.1000e-004	0.0000	0.2926	0.2926	1.0000e-005	1.0000e-005	0.2949
<b>Total</b>	<b>1.2000e-004</b>	<b>1.0100e-003</b>	<b>1.2800e-003</b>	<b>0.0000</b>	<b>4.9000e-004</b>	<b>1.0000e-005</b>	<b>5.1000e-004</b>	<b>1.3000e-004</b>	<b>1.0000e-005</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.7013</b>	<b>0.7013</b>	<b>5.0000e-005</b>	<b>8.0000e-005</b>	<b>0.7244</b>

**3.3 Site Preparation - 2023**

**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					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
<b>Total</b>	<b>2.7000e-004</b>	<b>3.0900e-003</b>	<b>1.9600e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>1.1000e-004</b>	<b>3.8000e-004</b>	<b>3.0000e-005</b>	<b>1.0000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4275</b>	<b>0.4275</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4309</b>



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**3.3 Site Preparation - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0146	0.0146	0.0000	0.0000	0.0148
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0146</b>	<b>0.0146</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0148</b>

**Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.7000e-004	3.0900e-003	1.9600e-003	0.0000		1.1000e-004	1.1000e-004		1.0000e-004	1.0000e-004	0.0000	0.4275	0.4275	1.4000e-004	0.0000	0.4309
<b>Total</b>	<b>2.7000e-004</b>	<b>3.0900e-003</b>	<b>1.9600e-003</b>	<b>0.0000</b>	<b>2.7000e-004</b>	<b>1.1000e-004</b>	<b>3.8000e-004</b>	<b>3.0000e-005</b>	<b>1.0000e-004</b>	<b>1.3000e-004</b>	<b>0.0000</b>	<b>0.4275</b>	<b>0.4275</b>	<b>1.4000e-004</b>	<b>0.0000</b>	<b>0.4309</b>

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

**3.3 Site Preparation - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	0.0000	5.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0146	0.0146	0.0000	0.0000	0.0148
<b>Total</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>1.0000e-005</b>	<b>0.0000</b>	<b>0.0146</b>	<b>0.0146</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0148</b>

**3.4 Grading - 2023**

**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
<b>Total</b>	<b>9.3000e-004</b>	<b>0.0102</b>	<b>5.5500e-003</b>	<b>1.0000e-005</b>	<b>5.3100e-003</b>	<b>4.2000e-004</b>	<b>5.7300e-003</b>	<b>2.5700e-003</b>	<b>3.9000e-004</b>	<b>2.9600e-003</b>	<b>0.0000</b>	<b>1.2381</b>	<b>1.2381</b>	<b>4.0000e-004</b>	<b>0.0000</b>	<b>1.2481</b>

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**3.4 Grading - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0472
<b>Total</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0468</b>	<b>0.0468</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0472</b>

**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					5.3100e-003	0.0000	5.3100e-003	2.5700e-003	0.0000	2.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3000e-004	0.0102	5.5500e-003	1.0000e-005		4.2000e-004	4.2000e-004		3.9000e-004	3.9000e-004	0.0000	1.2381	1.2381	4.0000e-004	0.0000	1.2481
<b>Total</b>	<b>9.3000e-004</b>	<b>0.0102</b>	<b>5.5500e-003</b>	<b>1.0000e-005</b>	<b>5.3100e-003</b>	<b>4.2000e-004</b>	<b>5.7300e-003</b>	<b>2.5700e-003</b>	<b>3.9000e-004</b>	<b>2.9600e-003</b>	<b>0.0000</b>	<b>1.2381</b>	<b>1.2381</b>	<b>4.0000e-004</b>	<b>0.0000</b>	<b>1.2481</b>

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**3.4 Grading - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.6000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0468	0.0468	0.0000	0.0000	0.0472
<b>Total</b>	<b>2.0000e-005</b>	<b>1.0000e-005</b>	<b>1.6000e-004</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>6.0000e-005</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>	<b>0.0468</b>	<b>0.0468</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0472</b>

**3.5 Building Construction - 2023**

**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	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
<b>Total</b>	<b>0.0316</b>	<b>0.3209</b>	<b>0.3549</b>	<b>5.7000e-004</b>		<b>0.0160</b>	<b>0.0160</b>		<b>0.0147</b>	<b>0.0147</b>	<b>0.0000</b>	<b>50.1042</b>	<b>50.1042</b>	<b>0.0162</b>	<b>0.0000</b>	<b>50.5093</b>

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**3.5 Building Construction - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0141	5.0700e-003	6.0000e-005	1.9600e-003	7.0000e-005	2.0300e-003	5.7000e-004	7.0000e-005	6.4000e-004	0.0000	6.3737	6.3737	3.9000e-004	9.4000e-004	6.6635
Worker	1.5100e-003	9.9000e-004	0.0136	4.0000e-005	5.5100e-003	3.0000e-005	5.5400e-003	1.4700e-003	2.0000e-005	1.4900e-003	0.0000	4.0957	4.0957	1.0000e-004	1.0000e-004	4.1290
<b>Total</b>	<b>1.8300e-003</b>	<b>0.0151</b>	<b>0.0186</b>	<b>1.0000e-004</b>	<b>7.4700e-003</b>	<b>1.0000e-004</b>	<b>7.5700e-003</b>	<b>2.0400e-003</b>	<b>9.0000e-005</b>	<b>2.1300e-003</b>	<b>0.0000</b>	<b>10.4695</b>	<b>10.4695</b>	<b>4.9000e-004</b>	<b>1.0400e-003</b>	<b>10.7925</b>

**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	0.0316	0.3209	0.3549	5.7000e-004		0.0160	0.0160		0.0147	0.0147	0.0000	50.1042	50.1042	0.0162	0.0000	50.5093
<b>Total</b>	<b>0.0316</b>	<b>0.3209</b>	<b>0.3549</b>	<b>5.7000e-004</b>		<b>0.0160</b>	<b>0.0160</b>		<b>0.0147</b>	<b>0.0147</b>	<b>0.0000</b>	<b>50.1042</b>	<b>50.1042</b>	<b>0.0162</b>	<b>0.0000</b>	<b>50.5093</b>

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**3.5 Building Construction - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.2000e-004	0.0141	5.0700e-003	6.0000e-005	1.9600e-003	7.0000e-005	2.0300e-003	5.7000e-004	7.0000e-005	6.4000e-004	0.0000	6.3737	6.3737	3.9000e-004	9.4000e-004	6.6635
Worker	1.5100e-003	9.9000e-004	0.0136	4.0000e-005	5.5100e-003	3.0000e-005	5.5400e-003	1.4700e-003	2.0000e-005	1.4900e-003	0.0000	4.0957	4.0957	1.0000e-004	1.0000e-004	4.1290
<b>Total</b>	<b>1.8300e-003</b>	<b>0.0151</b>	<b>0.0186</b>	<b>1.0000e-004</b>	<b>7.4700e-003</b>	<b>1.0000e-004</b>	<b>7.5700e-003</b>	<b>2.0400e-003</b>	<b>9.0000e-005</b>	<b>2.1300e-003</b>	<b>0.0000</b>	<b>10.4695</b>	<b>10.4695</b>	<b>4.9000e-004</b>	<b>1.0400e-003</b>	<b>10.7925</b>

**3.6 Paving - 2023**

**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	0.0306	0.2752	0.3511	5.6000e-004		0.0132	0.0132		0.0123	0.0123	0.0000	46.9962	46.9962	0.0137	0.0000	47.3384
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0306</b>	<b>0.2752</b>	<b>0.3511</b>	<b>5.6000e-004</b>		<b>0.0132</b>	<b>0.0132</b>		<b>0.0123</b>	<b>0.0123</b>	<b>0.0000</b>	<b>46.9962</b>	<b>46.9962</b>	<b>0.0137</b>	<b>0.0000</b>	<b>47.3384</b>

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

**3.6 Paving - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	1.2700e-003	0.0175	6.0000e-005	7.0900e-003	3.0000e-005	7.1200e-003	1.8900e-003	3.0000e-005	1.9200e-003	0.0000	5.2660	5.2660	1.3000e-004	1.3000e-004	5.3087
<b>Total</b>	<b>1.9400e-003</b>	<b>1.2700e-003</b>	<b>0.0175</b>	<b>6.0000e-005</b>	<b>7.0900e-003</b>	<b>3.0000e-005</b>	<b>7.1200e-003</b>	<b>1.8900e-003</b>	<b>3.0000e-005</b>	<b>1.9200e-003</b>	<b>0.0000</b>	<b>5.2660</b>	<b>5.2660</b>	<b>1.3000e-004</b>	<b>1.3000e-004</b>	<b>5.3087</b>

**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	0.0306	0.2752	0.3511	5.6000e-004		0.0132	0.0132		0.0123	0.0123	0.0000	46.9961	46.9961	0.0137	0.0000	47.3383
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
<b>Total</b>	<b>0.0306</b>	<b>0.2752</b>	<b>0.3511</b>	<b>5.6000e-004</b>		<b>0.0132</b>	<b>0.0132</b>		<b>0.0123</b>	<b>0.0123</b>	<b>0.0000</b>	<b>46.9961</b>	<b>46.9961</b>	<b>0.0137</b>	<b>0.0000</b>	<b>47.3383</b>

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

**3.6 Paving - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9400e-003	1.2700e-003	0.0175	6.0000e-005	7.0900e-003	3.0000e-005	7.1200e-003	1.8900e-003	3.0000e-005	1.9200e-003	0.0000	5.2660	5.2660	1.3000e-004	1.3000e-004	5.3087
<b>Total</b>	<b>1.9400e-003</b>	<b>1.2700e-003</b>	<b>0.0175</b>	<b>6.0000e-005</b>	<b>7.0900e-003</b>	<b>3.0000e-005</b>	<b>7.1200e-003</b>	<b>1.8900e-003</b>	<b>3.0000e-005</b>	<b>1.9200e-003</b>	<b>0.0000</b>	<b>5.2660</b>	<b>5.2660</b>	<b>1.3000e-004</b>	<b>1.3000e-004</b>	<b>5.3087</b>

**3.7 Architectural Coating - 2023**

**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	0.2195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5800e-003	0.0652	0.0906	1.5000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	12.7663	12.7663	7.6000e-004	0.0000	12.7854
<b>Total</b>	<b>0.2291</b>	<b>0.0652</b>	<b>0.0906</b>	<b>1.5000e-004</b>		<b>3.5400e-003</b>	<b>3.5400e-003</b>		<b>3.5400e-003</b>	<b>3.5400e-003</b>	<b>0.0000</b>	<b>12.7663</b>	<b>12.7663</b>	<b>7.6000e-004</b>	<b>0.0000</b>	<b>12.7854</b>



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**3.7 Architectural Coating - 2023**

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.1000e-004	2.9100e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8777	0.8777	2.0000e-005	2.0000e-005	0.8848
<b>Total</b>	<b>3.2000e-004</b>	<b>2.1000e-004</b>	<b>2.9100e-003</b>	<b>1.0000e-005</b>	<b>1.1800e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>3.1000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>0.8777</b>	<b>0.8777</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.8848</b>

**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	0.2195					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5800e-003	0.0652	0.0906	1.5000e-004		3.5400e-003	3.5400e-003		3.5400e-003	3.5400e-003	0.0000	12.7663	12.7663	7.6000e-004	0.0000	12.7854
<b>Total</b>	<b>0.2291</b>	<b>0.0652</b>	<b>0.0906</b>	<b>1.5000e-004</b>		<b>3.5400e-003</b>	<b>3.5400e-003</b>		<b>3.5400e-003</b>	<b>3.5400e-003</b>	<b>0.0000</b>	<b>12.7663</b>	<b>12.7663</b>	<b>7.6000e-004</b>	<b>0.0000</b>	<b>12.7854</b>

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**3.7 Architectural Coating - 2023**

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.1000e-004	2.9100e-003	1.0000e-005	1.1800e-003	1.0000e-005	1.1900e-003	3.1000e-004	1.0000e-005	3.2000e-004	0.0000	0.8777	0.8777	2.0000e-005	2.0000e-005	0.8848
<b>Total</b>	<b>3.2000e-004</b>	<b>2.1000e-004</b>	<b>2.9100e-003</b>	<b>1.0000e-005</b>	<b>1.1800e-003</b>	<b>1.0000e-005</b>	<b>1.1900e-003</b>	<b>3.1000e-004</b>	<b>1.0000e-005</b>	<b>3.2000e-004</b>	<b>0.0000</b>	<b>0.8777</b>	<b>0.8777</b>	<b>2.0000e-005</b>	<b>2.0000e-005</b>	<b>0.8848</b>

**4.0 Operational Detail - Mobile**

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**4.1 Mitigation Measures Mobile**

Increase Density

Improve Destination Accessibility

Increase Transit Accessibility

Integrate Below Market Rate Housing

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**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	0.1295	0.1110	1.1449	2.1800e-003	0.2386	1.4900e-003	0.2401	0.0637	1.3900e-003	0.0651	0.0000	200.6875	200.6875	0.0156	9.7500e-003	203.9843
Unmitigated	0.1515	0.1431	1.4685	3.0700e-003	0.3409	2.0200e-003	0.3429	0.0911	1.8700e-003	0.0929	0.0000	283.1887	283.1887	0.0191	0.0125	287.3821

**4.2 Trip Summary Information**

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	27.20	27.20	27.20	62,821	43,975
General Office Building	362.78	362.78	362.78	866,964	606,874
<b>Total</b>	<b>389.98</b>	<b>389.98</b>	<b>389.98</b>	<b>929,785</b>	<b>650,849</b>

**4.3 Trip Type Information**

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Office Building	9.50	7.30	7.30	33.00	48.00	19.00	77	19	4

**4.4 Fleet Mix**

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.473689	0.072335	0.232457	0.144246	0.025248	0.006233	0.010124	0.002125	0.001469	0.000591	0.028445	0.000434	0.002601
General Office Building	0.473689	0.072335	0.232457	0.144246	0.025248	0.006233	0.010124	0.002125	0.001469	0.000591	0.028445	0.000434	0.002601

**5.0 Energy Detail**





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**5.3 Energy by Land Use - Electricity**

**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	19431.8	0.0000	0.0000	0.0000	0.0000
General Office Building	403689	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	19431.8	0.0000	0.0000	0.0000	0.0000
General Office Building	403689	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

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

**6.1 Mitigation Measures Area**

No Hearths Installed

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1788	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627
Unmitigated	0.1788	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627

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**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	0.0220					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1400e-003	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627
<b>Total</b>	<b>0.1788</b>	<b>4.3000e-004</b>	<b>0.0374</b>	<b>0.0000</b>		<b>2.1000e-004</b>	<b>2.1000e-004</b>		<b>2.1000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0612</b>	<b>0.0612</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0627</b>



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**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	0.0220					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1557					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.1400e-003	4.3000e-004	0.0374	0.0000		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	0.0612	0.0612	6.0000e-005	0.0000	0.0627
<b>Total</b>	<b>0.1788</b>	<b>4.3000e-004</b>	<b>0.0374</b>	<b>0.0000</b>		<b>2.1000e-004</b>	<b>2.1000e-004</b>		<b>2.1000e-004</b>	<b>2.1000e-004</b>	<b>0.0000</b>	<b>0.0612</b>	<b>0.0612</b>	<b>6.0000e-005</b>	<b>0.0000</b>	<b>0.0627</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	1.5952	0.1638	3.8700e-003	6.8441
Unmitigated	1.9940	0.2048	4.8400e-003	8.5552

**7.2 Water by Land Use**

**Unmitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.32577 / 0.205377	0.1034	0.0106	2.5000e-004	0.4434
General Office Building	5.95941 / 3.65254	1.8907	0.1942	4.5900e-003	8.1117
<b>Total</b>		<b>1.9940</b>	<b>0.2048</b>	<b>4.8400e-003</b>	<b>8.5552</b>

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**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 Mid Rise	0.260616 / 0.205377	0.0827	8.4900e-003	2.0000e-004	0.3547
General Office Building	4.76753 / 3.65254	1.5125	0.1554	3.6700e-003	6.4894
<b>Total</b>		<b>1.5952</b>	<b>0.1638</b>	<b>3.8700e-003</b>	<b>6.8441</b>

**8.0 Waste Detail**

**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.7961	0.4016	0.0000	16.8371
Unmitigated	6.7961	0.4016	0.0000	16.8371

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**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 Mid Rise	2.3	0.4669	0.0276	0.0000	1.1567
General Office Building	31.18	6.3293	0.3741	0.0000	15.6805
<b>Total</b>		<b>6.7961</b>	<b>0.4016</b>	<b>0.0000</b>	<b>16.8371</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	2.3	0.4669	0.0276	0.0000	1.1567
General Office Building	31.18	6.3293	0.3741	0.0000	15.6805
<b>Total</b>		<b>6.7961</b>	<b>0.4016</b>	<b>0.0000</b>	<b>16.8371</b>

**9.0 Operational Offroad**

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435 East 3rd Avenue - San Mateo County, Annual

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

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

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

**Existing Baseline (Auto Repair Shop)  
San Mateo County, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Automobile Care Center	2.70	1000sqft	0.25	2,700.00	0

**1.2 Other Project Characteristics**

<b>Urbanization</b>	Urban	<b>Wind Speed (m/s)</b>	2.2	<b>Precipitation Freq (Days)</b>	70
<b>Climate Zone</b>	5			<b>Operational Year</b>	2022
<b>Utility Company</b>	Peninsula Clean Energy				
<b>CO2 Intensity (lb/MW hr)</b>	0	<b>CH4 Intensity (lb/MW hr)</b>	0	<b>N2O Intensity (lb/MW hr)</b>	0

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics -

Land Use - Acreage updated to match that of the site

Construction Phase - Model run done for operations only

Off-road Equipment - Model run done for operations only

Energy Use - Historic data used as this model run is for an existing building

Vehicle Trips - Trips updated to match traffic report.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	5.00	0.00
tblConstructionPhase	PhaseEndDate	11/22/2022	11/15/2022

Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

tblEnergyUse	LightingElect	3.70	2.99
tblEnergyUse	T24E	1.59	1.08
tblEnergyUse	T24NG	20.06	17.67
tblLandUse	LotAcreage	0.06	0.25
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblVehicleTrips	ST_TR	23.72	29.63
tblVehicleTrips	SU_TR	11.88	29.63
tblVehicleTrips	WD_TR	23.72	29.63

**2.0 Emissions Summary**

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Existing Baseline (Auto Repair Shop) - San Mateo 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
<b>Maximum</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**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
<b>Maximum</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

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

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



Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

		Highest	
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**2.2 Overall Operational**

**Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0120	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611
Mobile	0.0244	0.0194	0.1839	2.9000e-004	0.0292	2.5000e-004	0.0295	7.8000e-003	2.3000e-004	8.0300e-003	0.0000	26.7587	26.7587	2.7600e-003	1.6100e-003	27.3085
Waste						0.0000	0.0000		0.0000	0.0000	2.0928	0.0000	2.0928	0.1237	0.0000	5.1849
Water						0.0000	0.0000		0.0000	0.0000	0.0806	0.0000	0.0806	8.2800e-003	2.0000e-004	0.3458
<b>Total</b>	<b>0.0368</b>	<b>0.0227</b>	<b>0.1866</b>	<b>3.1000e-004</b>	<b>0.0292</b>	<b>5.0000e-004</b>	<b>0.0297</b>	<b>7.8000e-003</b>	<b>4.8000e-004</b>	<b>8.2800e-003</b>	<b>2.1734</b>	<b>30.2988</b>	<b>32.4723</b>	<b>0.1348</b>	<b>1.8700e-003</b>	<b>36.4004</b>

Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

**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	0.0120	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Energy	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611
Mobile	0.0244	0.0194	0.1839	2.9000e-004	0.0292	2.5000e-004	0.0295	7.8000e-003	2.3000e-004	8.0300e-003	0.0000	26.7587	26.7587	2.7600e-003	1.6100e-003	27.3085
Waste						0.0000	0.0000		0.0000	0.0000	2.0928	0.0000	2.0928	0.1237	0.0000	5.1849
Water						0.0000	0.0000		0.0000	0.0000	0.0806	0.0000	0.0806	8.2800e-003	2.0000e-004	0.3458
<b>Total</b>	<b>0.0368</b>	<b>0.0227</b>	<b>0.1866</b>	<b>3.1000e-004</b>	<b>0.0292</b>	<b>5.0000e-004</b>	<b>0.0297</b>	<b>7.8000e-003</b>	<b>4.8000e-004</b>	<b>8.2800e-003</b>	<b>2.1734</b>	<b>30.2988</b>	<b>32.4723</b>	<b>0.1348</b>	<b>1.8700e-003</b>	<b>36.4004</b>

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

**3.0 Construction Detail**

**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Architectural Coating	Architectural Coating	11/16/2022	11/15/2022	5	0	

**Acres of Grading (Site Preparation Phase): 0**







Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0244	0.0194	0.1839	2.9000e-004	0.0292	2.5000e-004	0.0295	7.8000e-003	2.3000e-004	8.0300e-003	0.0000	26.7587	26.7587	2.7600e-003	1.6100e-003	27.3085
Unmitigated	0.0244	0.0194	0.1839	2.9000e-004	0.0292	2.5000e-004	0.0295	7.8000e-003	2.3000e-004	8.0300e-003	0.0000	26.7587	26.7587	2.7600e-003	1.6100e-003	27.3085

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	80.00	80.00	80.00	79,696	79,696
Total	80.00	80.00	80.00	79,696	79,696

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	9.50	7.30	7.30	33.00	48.00	19.00	21	51	28

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	0.492711	0.069436	0.224270	0.138474	0.024483	0.005815	0.009990	0.002247	0.001578	0.000636	0.027452	0.000440	0.002469

Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

**5.0 Energy Detail**

Historical Energy Use: Y

**5.1 Mitigation Measures Energy**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611
NaturalGas Unmitigated	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611

Existing Baseline (Auto Repair Shop) - San Mateo 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					
Automobile Care Center	66339	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611
<b>Total</b>		<b>3.6000e-004</b>	<b>3.2500e-003</b>	<b>2.7300e-003</b>	<b>2.0000e-005</b>		<b>2.5000e-004</b>	<b>2.5000e-004</b>		<b>2.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>3.5401</b>	<b>3.5401</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>3.5611</b>

**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					
Automobile Care Center	66339	3.6000e-004	3.2500e-003	2.7300e-003	2.0000e-005		2.5000e-004	2.5000e-004		2.5000e-004	2.5000e-004	0.0000	3.5401	3.5401	7.0000e-005	6.0000e-005	3.5611
<b>Total</b>		<b>3.6000e-004</b>	<b>3.2500e-003</b>	<b>2.7300e-003</b>	<b>2.0000e-005</b>		<b>2.5000e-004</b>	<b>2.5000e-004</b>		<b>2.5000e-004</b>	<b>2.5000e-004</b>	<b>0.0000</b>	<b>3.5401</b>	<b>3.5401</b>	<b>7.0000e-005</b>	<b>6.0000e-005</b>	<b>3.5611</b>



Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

**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			
Automobile Care Center	20061	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	20061	0.0000	0.0000	0.0000	0.0000
<b>Total</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>

**6.0 Area Detail**

**6.1 Mitigation Measures Area**

Existing Baseline (Auto Repair Shop) - San Mateo 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	0.0120	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
Unmitigated	0.0120	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005

**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	1.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0105					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
<b>Total</b>	<b>0.0120</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.0000e-005</b>

Existing Baseline (Auto Repair Shop) - San Mateo 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**

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	1.4100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0105					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	2.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.0000e-005	5.0000e-005	0.0000	0.0000	5.0000e-005
<b>Total</b>	<b>0.0120</b>	<b>0.0000</b>	<b>2.0000e-005</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>		<b>0.0000</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.0000e-005</b>	<b>5.0000e-005</b>	<b>0.0000</b>	<b>0.0000</b>	<b>5.0000e-005</b>

**7.0 Water Detail**

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**7.1 Mitigation Measures Water**

Existing Baseline (Auto Repair Shop) - San Mateo 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	0.0806	8.2800e-003	2.0000e-004	0.3458
Unmitigated	0.0806	8.2800e-003	2.0000e-004	0.3458

**7.2 Water by Land Use**

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	0.254019 / 0.155689	0.0806	8.2800e-003	2.0000e-004	0.3458
<b>Total</b>		<b>0.0806</b>	<b>8.2800e-003</b>	<b>2.0000e-004</b>	<b>0.3458</b>

Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

**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			
Automobile Care Center	0.254019 / 0.155689	0.0806	8.2800e-003	2.0000e-004	0.3458
<b>Total</b>		<b>0.0806</b>	<b>8.2800e-003</b>	<b>2.0000e-004</b>	<b>0.3458</b>

**8.0 Waste Detail**

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**8.1 Mitigation Measures Waste**

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	2.0928	0.1237	0.0000	5.1849
Unmitigated	2.0928	0.1237	0.0000	5.1849

Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

**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			
Automobile Care Center	10.31	2.0928	0.1237	0.0000	5.1849
<b>Total</b>		<b>2.0928</b>	<b>0.1237</b>	<b>0.0000</b>	<b>5.1849</b>

**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	10.31	2.0928	0.1237	0.0000	5.1849
<b>Total</b>		<b>2.0928</b>	<b>0.1237</b>	<b>0.0000</b>	<b>5.1849</b>

**9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Existing Baseline (Auto Repair Shop) - San Mateo County, Annual

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

**10.0 Stationary Equipment**

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**Fire Pumps and Emergency Generators**

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

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

Equipment Type	Number
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**11.0 Vegetation**

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