# Meyers Industrial Project

## Air Quality, Greenhouse Gas, and Energy Impact Study

City of Escondido, CA

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# GLOSSARY OF TERMS

| | |
|---|---|
| CAAQS | California Ambient Air Quality Standards |
| CARB | California Air Resources Board |
| CEQA | California Environmental Quality Act |
| CFCs | Chlorofluorocarbons |
| $CH_4$ | Methane |
| CNG | Compressed natural gas |
| CO | Carbon monoxide |
| $CO_2$ | Carbon dioxide |
| $CO_2e$ | Carbon dioxide equivalent |
| DPM | Diesel particulate matter |
| GHG | Greenhouse gas |
| HFCs | Hydrofluorocarbons |
| $MTCO_2e$ | Metric tons of carbon dioxide equivalent |
| $MMTCO_2e$ | Million metric tons of carbon dioxide equivalent |
| NAAQS | National Ambient Air Quality Standards |
| NOx | Nitrogen Oxides |
| $NO_2$ | Nitrogen dioxide |
| $N_2O$ | Nitrous oxide |
| $O_3$ | Ozone |
| PFCs | Perfluorocarbons |
| PM | Particle matter |
| PM10 | Particles that are less than 10 micrometers in diameter |
| PM2.5 | Particles that are less than 2.5 micrometers in diameter |
| PMI | Point of maximum impact |
| PPM | Parts per million |
| PPB | Parts per billion |
| RAQS | San Diego Regional Air Quality Strategy |
| RTIP | Regional Transportation Improvement Plan |
| RTP | Regional Transportation Plan |
| SDAB | San Diego Air Basin |
| SDAPCD | San Diego Air Pollution Control District |
| $SF_6$ | Sulfur hexafluoride |
| SIP | State Implementation Plan |
| SOx | Sulfur Oxides |
| SRA | Source/Receptor Area |
| TAC | Toxic air contaminants |
| VOC | Volatile organic compounds |
| WRCC | Western Regional Climate Center |

# *1.0 Introduction*

## 1.1 Purpose of Analysis and Study Objectives

This air quality, greenhouse gas (GHG), and energy analysis was prepared to evaluate whether the estimated criteria pollutants and GHG emissions generated from the project would cause a significant impact to the air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The assessment is consistent with the methodology and emission factors endorsed by San Diego Air Pollution control district (SDAPCD), California Air Resource Board (CARB), and the United States Environmental Protection Agency (US EPA).

## 1.2 Project Summary

### 1.2.1 Site Location

The project site is located at 2351 Meyers Avenue in Escondido, California, as shown in Exhibit A. The project site has a current land use classification of Light Industrial (LI) according to the City of Escondido General Plan Land Use Map and is zoned Planned Development – Industrial (PD-I). The proposed use is industrial. Land uses surrounding the site include mainly light industrial and commercial uses as well as some residential uses. A self-storage facility borders the project site to the north, Meyers Avenue borders the project site to the east with industrial uses further east, an industrial park borders the site to the south, and vacant land borders the site to the west with a mobile home park located further west.

### 1.2.2 Project Description

The project proposes to develop the approximately 5-acre project site with one approximately 68,900 square foot unrefrigerated warehouse spec building comprising 58,100 square feet on the first floor and 10,800 square feet of mezzanine. The building will include 17,150 square feet of office space and 51,750 square feet of manufacturing/warehouse space (including approximately 34,450 square feet of manufacturing space and 17,300 square feet of warehouse space). Exhibit B demonstrates the site plan for the project.

Construction activities within the Project area will consist of on-site grading, building, paving, and architectural coating. Table 1 summarizes the land use description for the Project Site.

<Table 1, next page>

**Table 1: Land Use Summary**

| Land Use | Unit Amount | Size Metric |
|---|---|---|
| General Office Building | 17.15 | TSF[1] |
| Unrefrigerated Warehouse-No Rail | 51.75 | TSF |
| Other Non-Asphalt Surfaces | 2.06 | AC |
| Parking Lot | 169 | Space |

[1] TSF=thousand square foot

### 1.2.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution than others due to their exposure. As identified by the California Air Resources Board (CARB), sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, a sensitive receptor would be a location where a sensitive individual could remain for 24-hours or longer, such as residencies, hospitals, and schools (etc).

The closest existing sensitive receptors (to the site area) are the mobile home park located approximately 50 feet to the west and the single-family residential uses located approximately 0.18 miles southwest and 0.19 miles southeast.

## 1.3 Executive Summary of Findings and Mitigation Measures

The following is a summary of the analysis results:

**Construction-Source Emissions**
Project construction-source emissions would not exceed the SDAPCD's significance thresholds for criteria pollutants.

Project construction-source emissions would not conflict with the San Diego Regional Air Quality Strategy (RAQS). As discussed herein, the project will comply with all applicable SDAPCD construction-source emission reduction rules and guidelines. Project construction source emissions would not cause or substantively contribute to violation of the California Ambient Air Quality Standards (CAAQS) or National Ambient Air Quality Standards (NAAQS).

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

**Operational-Source Emissions**

Operational-sourced emissions would not exceed the SDAPCD's significance thresholds; therefore, impacts during project operation would be less than significant. Project-related traffic will not cause or result in CO concentrations exceeding applicable state and/or federal standards (CO "hotspots). Project operational-source emissions would therefore not adversely affect sensitive receptors within the vicinity of the project.

The project operational-source emissions will not exceed the SDAPCD's significance thresholds and will not conflict with the RAQS. The project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential operational-source odor impacts are therefore considered less-than significant. The project greenhouse gas emissions would be less than the 10,000 MT CO2e per year screening level threshold and would not conflict with the goals of SB-32, the CARB Scoping Plan, the City of Escondido Climate Action Plan; or the SANDAG Regional Plan; therefore, the project would not generate significant GHG emissions and would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts are considered to be less than significant.

The analysis shows that none of the nearby sensitive receptors would be exposed to elevated cancer risk from project operation-related diesel emissions in excess of 10 in a million, impacts are less than significant with mitigation. The operational related health risk impacts for non-cancer related impacts are less than 1.0; therefore, they are also considered to be less significant.

**Mitigation Measures**

**A. Construction Measures**

*Adherence to SDAPCD Rules 52, 54, and 55 is required.*

No construction mitigation required.

**B. Operational Measures to Reduce Emissions**

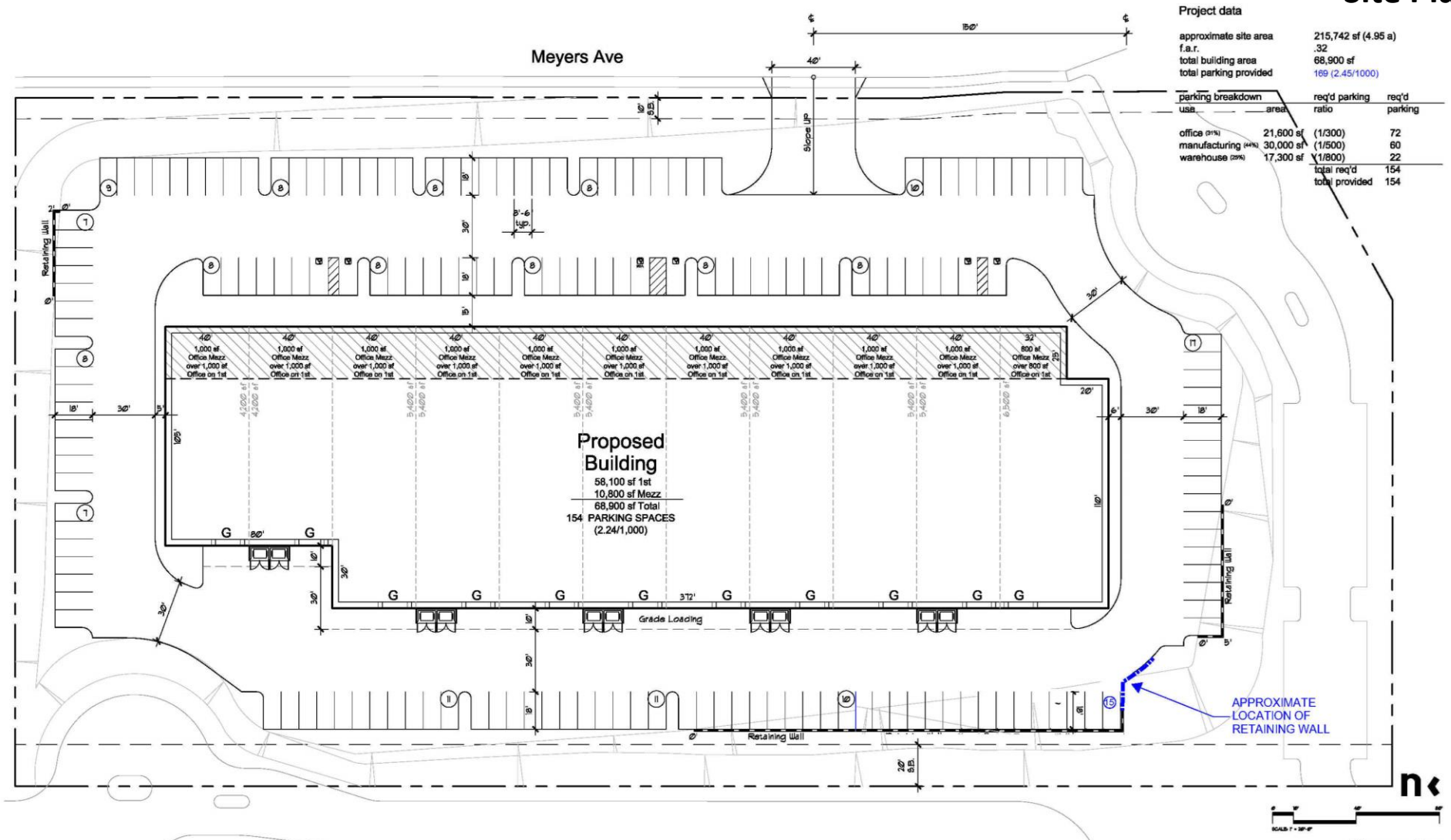
No operational mitigation required.

# Exhibit A

## Location Map

# Exhibit B

## Site Plan



# *2.0 Regulatory Framework and Background*

## 2.1 Air Quality Regulatory Setting

Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (ARB) regulates at the state level. The San Diego Air Pollution Control District (SDAPCD) regulates at the air basin level.

### 2.1.1 National and State

The EPA is responsible for global, international, and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Air Quality Standards, also known as federal standards. There are six common air pollutants, called criteria pollutants, which were identified from the provisions of the Clean Air Act of 1970.

- Ozone
- Nitrogen Dioxide
- Lead
- Particulate Matter (PM10 and PM2.5)
- Carbon Monoxide
- Particulate Matter
- Sulfur Dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to project the public health.

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts—air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms. See http://www.arb.ca.gov/research/aaqs/aaqs.htm for additional information on criteria pollutants and air quality standards.

The federal and state ambient air quality standards are summarized in Table 2 and can also be found at http://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

## Table 2: Ambient Air Quality Standards

| Pollutant | Averaging Time | California Standards[1] | | National Standards[2] | | |
|---|---|---|---|---|---|---|
| | | Concentrations[3] | Method[4] | Primary[3,5] | Secondary[3,6] | Method[7] |
| **Ozone (O3)** | 1-Hour | 0.09 ppm | Ultraviolet Photometry | - - | Same as Primary Standard | Ultraviolet Photometry |
| | 8-Hour | 0.070 ppm | | 0.070 ppm (147 µg/m³) | | |
| **Respirable Particulate Matter (PM10)[8]** | 24-Hour | 50 µg/m³ | Gravimetric or Beta Attenuation | 150 µ/m³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 20 µg/m³ | | - - | | |
| **Fine Particulate Matter (PM2.5)[8]** | 24-Hour | - - | - - | 35 µg/m³ | Same as Primary Standard | Inertial Separation and Gravimetric Analysis |
| | Annual Arithmetic Mean | 12 µg/m³ | Gravimetric or Beta Attenuation | 12 µg/m³ | 15 µg/m³ | |
| **Carbon Monoxide (CO)** | 1-Hour | 20 ppm (23 µg/m³) | Non-Dispersive Infrared Photometry (NDIR) | 35 ppm (40 µg/m³) | - - | Non-Dispersive Infrared Photometry (NDIR) |
| | 8-Hour | 9.0 ppm (10 µg/m³) | | 9 ppm (10 µg/m³) | - - | |
| | 8-Hour (Lake Tahoe) | 6 ppm (7 µg/m³) | | - - | - - | |
| **Nitrogen Dioxide ($NO_2$)[9]** | 1-Hour | 0.18 ppm (339 µg/m³) | Gas Phase Chemiluminescence | 100 ppb (188 µg/m³) | - - | Gas Phase Chemiluminescence |
| | Annual Arithmetic Mean | 0.030 ppm (357 µg/m³) | | 0.053 ppm (100 µg/m³) | Same as Primary Standard | |
| **Sulfur Dioxide ($SO_2$)[10]** | 1-Hour | 0.25 ppm (655 µg/m³) | Ultraviolet Fluorescence | 75 ppb (196 µg/m³) | - - | Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) |
| | 3-Hour | - - | | - - | 0.5 ppm (1300 mg/m³) | |
| | 24-Hour | 0.04 ppm (105 µg/m³) | | 0.14 ppm (for certain areas)[10] | - - | |
| | Annual Arithmetic Mean | - - | | 0.130ppm (for certain areas)[10] | - - | |
| **Lead[11,12]** | 30 Day Average | 1.5 µg/m³ | Atomic Absorption | - - | | High Volume Sampler and Atomic Absorption |
| | Calendar Qrtr | - - | | 1.5 µg/m³ (for certain areas)[12] | Same as Primary Standard | |
| | Rolling 3-Month Average | - - | | 0.15 µg/m³ | | |
| **Visibility Reducing Particles[13]** | 8-Hour | See footnote 13 | Beta Attenuation and Transmittance through Filter Tape | No National Standards | | |
| **Sulfates** | 24-Hour | 25 µg/m³ | Ion Chromatography | | | |
| **Hydrogen Sulfide** | 1-Hour | 0.03 ppm (42 µg/m³) | Ultraviolet Fluorescence | | | |
| **Vinyl Chloride[11]** | 24-Hour | 0.01 ppm (26 µg/m³) | Gas Chromatography | | | |

Notes:

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

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

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

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

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

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

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

8. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM10 standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

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

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

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

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

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

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

Several pollutants listed in Table 2 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

## 2.1.2 Local

### San Diego Air Pollution Control District

In San Diego, the APCD is responsible for enforcing the rules and regulations protecting air quality. The San Diego Regional Air Quality Strategy (RAQS) was developed pursuant to California Clean Air Act (CCAA) requirements. The RAQS was initially adopted in 1991, and is updated on a triennial basis (most recently in 2009). The RAQS identifies feasible emission control measures to provide progress in San Diego County toward attaining the State ozone standard. The pollutants addressed in the RAQS are VOCs and NOX, precursors to the photochemical formation of ozone (the primary component of smog).

The RAQS relies on information from CARB and San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the

reduction of emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County as part of the development of the individual General Plans.

In December 2016, the SDAPCD adopted an update to the Eight-Hour Ozone Attainment Plan for San Diego County which indicates that local controls and state programs would allow the region to reach attainment of the federal 8-hour O3 standard by 2018 (SDAPCD 2016). In this plan, SDAPCD relies on the RAQS to demonstrate how the region will comply with the federal O3 standard. The RAQS details how the region will manage and reduce O3 precursors (NOx and VOCs) by identifying measures and regulations intended to reduce these contaminants. The control measures identified in the RAQS generally focus on stationary sources; however, the emissions inventories and projections in the RAQS address all potential sources, including those under the authority of CARB and the EPA. Incentive programs for reduction of emissions from heavy-duty diesel vehicles, off-road equipment, and school buses are also established in the RAQS.

**SDAPCD Rules and Regulations**

The following rules and regulations apply to all sources in the jurisdiction of SDAPCD, and would apply to the project.

- **SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions.** Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.
- **SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.** Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.
- **SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.** Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.
- **SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.** Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review.** Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above 1 in 1 million at every receptor location, or demonstrate that toxics best available control technology (T-BACT) will be employed if

maximum incremental cancer risk is equal to or less than 10 in 1 million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in 1 million but less than 100 in 1 million.

- **SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction.** Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in 1 million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0.

**San Diego Association of Governments**

SANDAG is the regional planning agency for San Diego County and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. With respect to air quality planning and other regional issues, SANDAG has prepared San Diego Forward: The Regional Plan (Regional Plan) for the San Diego region (SANDAG 2015). The Regional Plan, including its Sustainable Communities Strategy (SCS), is built on an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system so that it meets the diverse needs of the San Diego region through 2050. In regard to air quality, the Regional Plan sets the policy context in which SANDAG participates and responds to the air district's air quality plans and builds off the air district's air quality plan processes that are designed to meet health-based criteria pollutant standards in several ways (SANDAG 2015). On September 23, 2016, SANDAG's Board of Directors adopted the final 2016 Regional Transportation Improvement Program (RTIP). The 2016 RTIP is a multi-year program of projects for major transportation projects in the San Diego region. Transportation projects supported through federal, state, and TransNet (the San Diego transportation sales tax program) funds must be included in an approved RTIP. The 2016 RTIP covers five fiscal years and incrementally implements the Regional Plan (SANDAG 2016). The 2021 Regional Plan was adopted on December 10, 2021, and includes plans for multimodal roads, expanded transit, and improvements to the transportation system technology (SANDAG 2021).

On October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan (RPT) and Sustainable Communities Strategy (SCS), which meets the CARB emission reduction requirements. The 2050 RTP is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The plan outlines more than $214 billion in transportation system investments through 2050. The RTP is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently.

### 2.1.3 City of Escondido

*City of Escondido General Plan*

The Resource Conservation Element of the City of Escondido's General Plan contains the following air-quality related goals and policies that are applicable to the proposed project:

**Goal 7** Improved air quality in the city and the region to maintain the community's health and reduce green-house gas emissions that contribute to climate change.

*Air Quality and Climate Protection Policies*

*7.1* Participate in regional planning efforts and coordinate with the San Diego Air Pollution Control District and San Diego Association of Governments in their efforts to reduce air quality impacts and attain state and federal air quality standards.

*7.3* Require that new development projects incorporate feasible measures that reduce construction and operational emissions.

*7.4* Locate uses and facilities/operations that may produce toxic or hazardous air pollutants an adequate distance from each other and from sensitive uses such as housing and schools as consistent with California Air Resources Board recommendations.

*7.5* Consider the development of park and ride facilities within the city in coordination with Caltrans.

*7.6* Restrict the number and location of drive-through facilities in the city and require site layouts that reduce the amount of time vehicles wait for service.

*7.7* Encourage businesses to alter local truck delivery schedules to occur during non-peak hours, when feasible.

*7.8* Require that government contractors minimize greenhouse gas emissions in building construction and operations, which can be accomplished through the use of low or zero-emission vehicles and equipment.

*7.9* Encourage city employees to use public transit, carpool, and use alternate modes of transportation for their home to work commutes.

*7.10* Purchase low-emission vehicles for the city's fleet and use clean fuel sources for trucks and heavy equipment, when feasible.

*7.11* Educate the public about air quality, its effect on health, and efforts the public can make to improve air quality and reduce greenhouse gas emissions.

## 2.2 Greenhouse Gas Regulatory Setting

### 2.2.1 International

Many countries around the globe have made an effort to reduce GHGs since climate change is a global issue.

**Intergovernmental Panel on Climate Change.** In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

**United Nations.** The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

**Kyoto Protocol.** The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008 – 2012 (UNFCCC 1997). On December 8, 2012, the Doha Amendment to the Kyoto Protocol was adopted. The amendment includes: New commitments for Annex I Parties to the Kyoto Protocol who agreed to take on commitments in a second commitment period from 2013 – 2020; a revised list of greenhouse gases (GHG) to be reported on by Parties in the second commitment period; and Amendments to several articles of the Kyoto Protocol which specifically referenced issues pertaining to the first commitment period and which needed to be updated for the second commitment period.

### 2.2.2 National

**Greenhouse Gas Endangerment.** On December 2, 2009, the EPA announced that GHGs threaten the public health and welfare of the American people. The EPA also states that GHG emissions from on-road vehicles contribute to that threat. The decision was based on *Massachusetts v. EPA* (Supreme Court Case 05-1120) which argued that GHGs are air pollutants covered by the Clean Air Act and that the EPA has authority to regulate those emissions.

**Clean Vehicles.** Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's

National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The second phase of the national program would involve proposing new fuel economy and greenhouse gas standards for model years 2017 – 2025 by September 1, 2011.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012. This Rule also excludes CO2-equivalent emission improvements associated with air conditioning refrigerants and leakage (and, optionally, offsets for nitrous oxide and methane emissions) after model year 2020.[1]

**Mandatory Reporting of Greenhouse Gases.** On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under

[1] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.gpo.gov/fdsys/pkg/FR-2018-08-24/pdf/2018-16820.pdf.

the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

**Climate Adaption Plan.** The EPA Plan identifies priority actions the Agency will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. The following link provides more information on the EPA Plan: https://www.epa.gov/arc-x/planning-climate-change-adaptation

### 2.2.3 California

**California Code of Regulations (CCR) Title 24, Part 6.** CCR Title 24, Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24) were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. Although it was not originally intended to reduce GHG emissions, electricity production by fossil fuels results in GHG emissions and energy efficient buildings require less electricity. Therefore, increased energy efficiency results in decreased GHG emissions.

The Energy Commission adopted 2008 Standards on April 23, 2008 and Building Standards Commission approved them for publication on September 11, 2008. These updates became effective on August 1, 2009. 2013 and 2016 standards have been approved and became effective July 1, 2014 and January 1, 2016, respectively. 2019 standards were published July 1, 2019 and became effective January 1, 2020.

**California Code of Regulations (CCR) Title 24, Part 11.** All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards.. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions. The following links provide more information on Title 24, Part 11:
https://www.dgs.ca.gov/BSC/Codes
https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

**California Green Building Standards.** On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Housing and Community Development (HCD) updated CALGreen through the 2015 Triennial Code Adoption Cycle, during the 2016 to 2017 fiscal year. During the 2019-2020 fiscal year, the Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle.

The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings. CCR Title 24, Part 11: California Green Building Standards (Title 24) became effective in 2001 in response to continued efforts to reduce GHG emissions associated with energy consumption. CCR Title 24, Part 11 now require that new buildings reduce water consumption, employ building commissioning to increase building system efficiencies, divert construction waste from landfills, and

install low pollutant-emitting finish materials. One focus of CCR Title 24, Part 11 is water conservation measures, which reduce GHG emissions by reducing electrical consumption associated with pumping and treating water. CCR Title 24, Part 11 has approximately 52 nonresidential mandatory measures and an additional 130 provisions for optional use. Some key mandatory measures for commercial occupancies include specified parking for clean air vehicles, a 20 percent reduction of potable water use within buildings, a 50 percent construction waste diversion from landfills, use of building finish materials that emit low levels of volatile organic compounds, and commissioning for new, nonresidential buildings over 10,000 square feet.

The 2019 CalGreen Code includes the following changes and/or additional regulations:

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades[2].

HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2 for projects that disturb one or more acres of land. This section requires projects that disturb one acre or more of land or less than one acre of land but are part of a larger common plan of development or sale must comply with the post-construction requirement detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board. The NPDES permits require post-construction runoff (post-project hydrology) to match the preconstruction runoff pre-project hydrology) with installation of post-construction stormwater management measures.

HCD added sections 5.106.4.1.3 and 5.106.4.1.5 in regards to bicycle parking. Section 5.106.4.1.3 requires new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility. In addition, Section 5.106.4.1.5 states that acceptable bicycle parking facility for Sections 5.106.4.1.2 through 5.106.4.1.4 shall be convenient from the street and shall meeting one of the following: (1) covered, lockable enclosures with permanently anchored racks for bicycles; (2) lockable bicycle rooms with permanently anchored racks; or (3) lockable, permanently anchored bicycle lockers.

HCD amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles.

[2] https://ww2.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf

HCD updated section 5.303.3.3 in regards to showerhead flow rates. This update reduced the flow rate to 1.8 GPM.

HCD amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3. The update requires nonresidential developments to comply with a local water efficient landscape ordinance or the current California Department of Water Resource's' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. Some updates were also made in regards to the outdoor potable water use in landscape areas for public schools and community colleges.

HCD updated Section 5.504.5.3 in regards to the use of MERV filters in mechanically ventilated buildings. This update changed the filter use from MERV 8 to MERV 13.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official. The following link provides more on CalGreen Building Standards:
http://www.bsc.ca.gov/Home/CALGreen.aspx

**Executive Order S-3-05.** California Governor issued Executive Order S-3-05, GHG Emission, in June 2005, which established the following targets:

- By 2010, California shall reduce greenhouse gas emissions to 2000 levels;
- By 2020, California shall reduce greenhouse gas emissions to 1990 levels.
- By 2050, California shall reduce greenhouse gas emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. To comply with the Executive Order, the secretary of CalEPA created the California Climate Action Team (CAT), made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of businesses, local governments, and communities and through State incentive and regulatory programs.

**Executive Order S-01-07.** Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

**SB 97.** Senate Bill 97 (SB 97) was adopted August 2007 and acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. SB 97 directed the Governor's Office of Planning and Research (OPR), which is part of the State Resource Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, by July 1, 2009. The Resources Agency was required to certify and adopt those guidelines by January 1, 2010.

Pursuant to the requirements of SB 97 as stated above, on December 30, 2009 the Natural Resources Agency adopted amendments to the state CEQA guidelines that address GHG emissions. The CEQA Guidelines Amendments changed 14 sections of the CEQA Guidelines and incorporate GHG language throughout the Guidelines. However, no GHG emissions thresholds of significance are provided and no specific mitigation measures are identified. The GHG emission reduction amendments went into effect on March 18, 2010 and are summarized below:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that "to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation."
- OPR's emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.
- Environmental impact reports (EIRs) must specifically consider a project's energy use and energy efficiency potential.

**AB 32.** The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent (MMTCO2e) on December 6, 2007 (California Air Resources Board 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 MMTCO2e.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are

enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010. The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 MMTCO2e by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) initially contained measures designed to reduce the State's emissions to 1990 levels by the year 2020 with a further goal of 40 percent below 2020 levels by 2030 established in 2017 (California Air Resources Board 2017). The 2020 goal was achieved in 2016. The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2030 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, Including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies. "Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32. "Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[4]

**SB 375.** Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS)

or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

The proposed project is located within the San Diego Association of Government (SANDAG), which has authority to develop the SCS or APS. For the SANDAG region, the targets set by CARB are at 15 percent below 2005 per capita GHG emissions levels by 2020 and 19 percent below 2005 per capita GHG emissions levels by 2035. On October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan (RPT) and Sustainable Communities Strategy (SCS), which meets the CARB emission reduction requirements.

The 2050 RTP is a long-range visioning plan that builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The plan outlines more than $214 billion in transportation system investments through 2050. The RTP is supported by a combination of transportation and land use strategies that help the region achieve state greenhouse gas emission reduction goals and federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry and utilize resources more efficiently.

City and County land use policies, including General Plans, are not required to be consistent with the RTP and associated SCS or APS. However, new provisions of CEQA would incentivize, through streamlining and other provisions, qualified projects that are consistent with an approved SCS or APS and categorized as "transit priority projects."

**Assembly Bill 939, Assembly Bill 341, and Senate Bill 1374.** Assembly Bill 939 (AB 939) requires that each jurisdiction in California to divert at least 50 percent of its waste away from landfills, whether through waste reduction, recycling or other means. AB 341 requires at least 75 percent of generated waste be source reduced, recycled, or composted by the year 2020. Senate Bill 1374 (SB 1374) requires the California Integrated Waste Management Board to adopt a model ordinance by March 1, 2004 suitable for adoption by any local agency to require 50 to 75 percent diversion of construction and demolition of waste materials from landfills.

**Executive Order S-13-08.** Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resource Agency 2009) was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change in California,

identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

**Executive Order B-30-15.** Executive Order B-30-15, establishing a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030, was signed by Governor Brown in April 2015.

**Executive Order B-29-15.** Executive Order B-29-15, mandates a statewide 25% reduction in potable water usage and was signed into law on April 1, 2015.

**Executive Order B-37-16.** Executive Order B-37-16, continuing the State's adopted water reduction, was signed into law on May 9, 2016. The water reduction builds off the mandatory 25% reduction called for in EO B-29-15.

**Executive Order N-79-20.** Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

**Renewables Portfolio Standard (RPS) Program.** California's RPS program was established in 2002 by Senate Bill (SB) 1078 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which again increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045 (CPUC 2021).

San Diego Gas & Electric procured 42 percent of its power from renewable resources, which is above the State's statutory and Commission's RPS program requirements (SDG&E 2021).

### 2.2.4 Local

*City of Escondido*

**City of Escondido Climate Action Plan**

The City of Escondido adopted its most recent Climate Action Plan (CAP) in 2013, which inventoried existing CO2 emissions, projected emissions growth to 2035, and evaluated a wide range of CO2 reduction measures. Measures included in the CAP focus on increasing renewable energy use, energy efficiency, and water efficiency while reducing fossil fuel use, solid waste, and vehicle miles traveled. With these measures, the City's emissions would be 16 percent below 2012 baseline levels in 2020, 37 percent below 2012 baseline levels in 2030, and 40 percent below 2012 baseline levels in 2035.

**City of Escondido General Plan**

The Resource Conservation Element of the City of Escondido's General Plan contains the following air-quality related goals and policies that are applicable to the proposed project:

**Goal 7** Improved air quality in the city and the region to maintain the community's health and reduce green-house gas emissions that contribute to climate change.

*Air Quality and Climate Protection Policies*

*7.2* Reduce regional greenhouse gas emissions through the following measures including, but not limited to:

- *a)* Implementing land use patterns that reduce automobile dependence (compact, mixed-use, pedestrian, and transit-oriented development, etc.);
- *b)* Reducing the number of vehicular miles traveled through implementation of Transportation Demand Management programs, jobs-housing balance, and similar techniques;
- *c)* Supporting public transportation improvements;
- *d)* Encouraging the use of alternative modes of transportation by expanding public transit, bicycle, and pedestrian networks and facilities;
- *e)* Participating in the development of park-and-ride facilities;
- *f)* Maintaining and updating the city's traffic signal synchronization plan;
- *g)* Promoting local agriculture;
- *h)* Promoting the use of drought-tolerant landscaping; and
- *i)* Encouraging the use of non-polluting alternative energy systems.

## 2.3 Health Risk Regulatory Setting

**Health Risk Assessments for Proposed Land Use Projects CAPCOA Guidance Document**. This guidance was adopted July 2009 to ensure consistency in assessing the health risk impacts from and to proposed land use projects. This CAPCOA guidance document focuses on the acute, chronic, and cancer impacts of sources affected by CEQA. It also outlines the recommended procedures to identify when a project should undergo further risk evaluation, how to conduct the health risk assessment (HRA), how to engage the public, what to do with the results from the HRA, and what mitigation measures may be appropriate for various land use projects. With respect to health risks associated with locating sensitive land uses in proximity to freeways and other high traffic roadways, HRA modeling may not thoroughly characterize all the health risk associated with nearby exposure to traffic generated pollutants.

**California Code of Regulations (CCR) Title 13 Section 2485.** The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling applies to diesel-fueled commercial motor vehicles that operate in the State of California with gross vehicle weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. It limits applicable vehicles from idling more than five consecutive minutes at any location.

## 2.3 Energy Regulatory Setting

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency are three federal agencies with substantial influence over energy policies and programs. On the state level, the PUC and the California Energy Commissions (CEC) are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

### 2.3.1 Federal Regulations

*Corporate Average Fuel Economy (CAFE) Standards*

First established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards. The U.S. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.[3]

Issued by NHTSA and EPA in March 2020 (published on April 30, 2020 and effective after June 29, 2020), the Safer Affordable Fuel-Efficient Vehicles Rule would maintain the CAFE and CO2 standards applicable in model year 2020 for model years 2021 through 2026. The estimated CAFE and CO2 standards for model year 2020 are 43.7 mpg and 204 grams of CO2 per mile for passenger cars and 31.3 mpg and 284 grams of CO2 per mile for light trucks, projecting an overall industry average of 37 mpg, as compared to 46.7 mpg under the standards issued in 2012.[4]

*Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)*

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

[3] https://www.nhtsa.gov/lawsregulations/corporate-average-fuel-economy.

[4] National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA), 2018. Federal Register / Vol. 83, No. 165 / Friday, August 24, 2018 / Proposed Rules, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks 2018. Available at: https://www.epa.gov/regulations-emissions-vehicles-and-engines/safer-affordable-fuel-efficient-safe-vehicles-final-rule.

*The Transportation Equity Act of the 21st Century (TEA-21)*

The Transportation Equity Act for the 21st Century (TEA-21) was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

### 2.3.2 State Regulations

*Integrated Energy Policy Report (IEPR)*

Senate Bill 1389 requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the State's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The Energy Commission prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2019 Integrated Energy Policy Report (2019 IEPR) was adopted February 20, 2020, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2019 IEPR focuses on a variety of topics such as decarbonizing buildings, integrating renewables, energy efficiency, energy equity, integrating renewable energy, updates on Southern California electricity reliability, climate adaptation activities for the energy sector, natural gas assessment, transportation energy demand forecast, and the California Energy Demand Forecast.[5]

The 2020 IEPR was adopted March 23, 2021 and identifies actions the state and others can take to ensure a clean. Affordable, and reliable energy system. In 2020, the IEPR focuses on California's transportation future and the transition to zero-emission vehicles, examines microgrids, lessons learned form a decade of state-supported research, and stakeholder feedback on the potential of microgrids to contribute to a lean and resilient energy system; and reports on California's energy

[5] California Energy Commission. Final 2019 Integrated Energy Policy Report. February 20, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2019-integrated-energy-policy-report

demand outlook, updated to reflect the global pandemic and help plan for a growth in zero-emission plug in electric vehicles.[6]

*State of California Energy Plan*

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

*California Building Standards Code (Title 24)*

***California Building Energy Efficiency Standards (Title 24, Part 6)***

The California Building Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) were adopted to ensure that building construction and system design and installation achieve energy efficiency and preserve outdoor and indoor environmental quality. The current California Building Energy Efficiency Standards (Title 24 standards) are the 2019 Title 24 standards, which became effective on January 1, 2020. The 2019 Title 24 standards include efficiency improvements to the lighting and efficiency improvements to the non-residential standards include alignment with the American Society of Heating and Air-Conditioning Engineers.

All buildings for which an application for a building permit is submitted on or after January 1, 2020 must follow the 2019 standards. The 2016 residential standards were estimated to be approximately 28 percent more efficient than the 2013 standards, whereas the 2019 residential standards are estimated to be approximately 7 percent more efficient than the 2016 standards. Furthermore, once rooftop solar electricity generation is factored in, 2019 residential standards are estimated to be approximately 53 percent more efficient than the 2016 standards. Under the 2019 standards, nonresidential buildings are estimated to be approximately 30 percent more efficient than the 2016 standards. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

***California Building Energy Efficiency Standards (Title 24, Part 11)***

The 2019 California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, went into effect on January 1, 2020. The 2019 CALGreen

[6] California Energy Commission. Final 2020 Integrated Energy Policy Report. March 23, 2020. https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report/2020-integrated-energy-policy-report-update

Code includes mandatory measures for non-residential development related to site development; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality.

The Department of Housing and Community Development (HCD) updated CALGreen through the 2019 Triennial Code Adoption Cycle. HCD modified the best management practices for stormwater pollution prevention adding Section 5.106.2; added sections 5.106.4.1.3 and 5.106.4.1.5 in regard to bicycle parking; amended section 5.106.5.3.5 allowing future charging spaces to qualify as designated parking for clean air vehicles; updated section 5.303.3.3 in regard to showerhead flow rates; amended section 5.304.1 for outdoor potable water use in landscape areas and repealed sections 5.304.2 and 5.304.3; and updated Section 5.504.5.3 in regard to the use of MERV filters in mechanically ventilated buildings.

Senate Bill 100

Senate Bill 100 (SB 100) requires 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. SB 100 was adopted September 2018.

The interim thresholds from prior Senate Bills and Executive Orders would also remain in effect. These include Senate Bill 1078 (SB 1078), which requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20 percent of their supply from renewable sources by 2017. Senate Bill 107 (SB 107) which changed the target date to 2010. Executive Order S-14-08, which was signed on November 2008 and expanded the State's Renewable Energy Standard to 33 percent renewable energy by 2020. Executive Order S-21-09 directed the CARB to adopt regulations by July 31, 2010 to enforce S-14-08. Senate Bill X1-2 codifies the 33 percent renewable energy requirement by 2020.

*Senate Bill 350*

Senate Bill 350 (SB 350) was signed into law October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard (RPS) eligible resources, including solar, wind, biomass, geothermal, and others. In addition, SB 350 requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help ensure these goals are met and the greenhouse gas emission reductions are realized, large utilities will be required to develop and submit Integrated Resource Plans (IRPs). These IRPs will detail how each entity will meet their customers resource needs, reduce greenhouse gas emissions and ramp up the deployment of clean energy resources.

*Assembly Bill 32*

In 2006 the California State Legislature adopted Assembly Bill 32 (AB 32), the California Global Warming Solutions Act of 2006. AB 32 requires CARB, to adopt rules and regulations that would achieve GHG emissions equivalent to statewide levels in 1990 by 2020 through an enforceable statewide emission cap which will be phased in starting in 2012. Emission reductions shall include

carbon sequestration projects that would remove carbon from the atmosphere and best management practices that are technologically feasible and cost effective.

*Assembly Bill 1493/Pavley Regulations*

California Assembly Bill 1493 enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. In 2005, the CARB submitted a "waiver" request to the EPA from a portion of the federal Clean Air Act in order to allow the State to set more stringent tailpipe emission standards for $CO_2$ and other GHG emissions from passenger vehicles and light duty trucks. On December 19, 2007 the EPA announced that it denied the "waiver" request. On January 21, 2009, CARB submitted a letter to the EPA administrator regarding the State's request to reconsider the waiver denial. The EPA approved the waiver on June 30, 2009.

*Executive Order S-1-07/Low Carbon Fuel Standard*

Executive Order S-1-07 was issued in 2007 and proclaims that the transportation sector is the main source of GHG emissions in the State, since it generates more than 40 percent of the State's GHG emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in the State by at least ten percent by 2020. This Order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

On April 23, 2009 CARB approved the proposed regulation to implement the low carbon fuel standard and began implementation on January 1, 2011. The low carbon fuel standard is anticipated to reduce GHG emissions by about 16 MMT per year by 2020. CARB approved some amendments to the LCFS in December 2011, which were implemented on January 1, 2013. In September 2015, the Board approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In 2018, the Board approved amendments to the regulation, which included strengthening and smoothing the carbon intensity benchmarks through 2030 in-line with California's 2030 GHG emission reduction target enacted through SB 32, adding new crediting opportunities to promote zero emission vehicle adoption, alternative jet fuel, carbon capture and sequestration, and advanced technologies to achieve deep decarbonization in the transportation sector.

The LCFS is designed to encourage the use of cleaner low-carbon transportation fuels in California, encourage the production of those fuels, and therefore, reduce GHG emissions and decrease petroleum dependence in the transportation sector. Separate standards are established for gasoline and diesel fuels and the alternative fuels that can replace each. The standards are "back-loaded", with more reductions required in the last five years, than during the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the low carbon fuel standard will be based on a combination of both lower carbon fuels and more efficient vehicles.

Reformulated gasoline mixed with corn-derived ethanol at ten percent by volume and low sulfur diesel fuel represent the baseline fuels. Lower carbon fuels may be ethanol, biodiesel, renewable diesel, or blends of these fuels with gasoline or diesel as appropriate. Compressed natural gas and liquefied natural gas also may be low carbon fuels. Hydrogen and electricity, when used in fuel cells or electric vehicles are also considered as low carbon fuels for the low carbon fuel standard.

*Executive Order N-79-20.*

Executive Order N-79-20 was signed into law on September 23, 2020 and mandates 100 percent of in-state sales of new passenger cars and trucks be zero-emission by 2035; 100 percent of medium- and heavy-duty vehicles in the state be zero-emission vehicles by 2045 for all operations where feasible and by 2035 for drayage trucks; and to transition to 100 percent zero-emission off-road vehicles and equipment by 2035 where feasible.

*California Air Resources Board*

***CARB's Advanced Clean Cars Program***

Closely associated with the Pavley regulations, the Advanced Clean Cars emissions control program was approved by CARB in 2012. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of zero-emission vehicles for model years 2015–2025. The components of the Advanced Clean Cars program include the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles (PHEV) in the 2018 through 2025 model years.[7]

***Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling***

The Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling (Title 13, California Code of Regulations, Division 3, Chapter 10, Section 2435) was adopted to reduce public exposure to diesel particulate matter and other air contaminants by limiting the idling of diesel-fueled commercial motor vehicles. This section applies to diesel-fueled commercial motor vehicles with gross vehicular weight ratings of greater than 10,000 pounds that are or must be licensed for operation on highways. Reducing idling of diesel-fueled commercial motor vehicles reduces the amount of petroleum-based fuel used by the vehicle.

*Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen, and other Criteria Pollutants, form In-Use Heavy-Duty Diesel-Fueled Vehicles*

[7] California Air Resources Board, California's Advanced Clean Cars Program, January 18, 2017. www.arb.ca.gov/msprog/acc/acc.htm.

The Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles (Title 13, California Code of Regulations, Division 3, Chapter 1, Section 2025) was adopted to reduce emissions of diesel particulate matter, oxides of nitrogen ($NO_X$) and other criteria pollutants from in-use diesel-fueled vehicles. This regulation is phased, with full implementation by 2023. The regulation aims to reduce emissions by requiring the installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models. The newer emission controlled models would use petroleum-based fuel in a more efficient manner.

*Sustainable Communities Strategy*

The Sustainable Communities and Climate Protection Act of 2008, or Senate Bill 375 (SB 375), coordinates land use planning, regional transportation plans, and funding priorities to help California meet the GHG reduction mandates established in AB 32.

Senate Bill 375 (SB 375) was adopted September 2008 and aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPO) to adopt a sustainable communities strategy (SCS) or alternate planning strategy (APS) that will prescribe land use allocation in that MPOs Regional Transportation Plan (RTP). CARB, in consultation with each MPO, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's sustainable communities strategy or alternate planning strategy for consistency with its assigned targets.

### 2.3.3 City Regulations

*City of Escondido*

**City of Escondido Climate Action Plan**

The City of Escondido adopted its most recent Climate Action Plan (CAP) in 2013, which inventoried existing CO2 emissions, projected emissions growth to 2035, and evaluated a wide range of CO2 reduction measures. Measures included in the CAP focus on increasing renewable energy use, energy efficiency, and water efficiency while reducing fossil fuel use, solid waste, and vehicle miles traveled. With these measures, the City's emissions would be 16 percent below 2012 baseline levels in 2020, 37 percent below 2012 baseline levels in 2030, and 40 percent below 2012 baseline levels in 2035.

# *3.0 Setting*

## 3.1 Existing Physical Setting

The project site is located in the City of Escondido, which is in the San Diego Air Basin (SDAB). The boundaries of the SDAB are contiguous with the political boundaries of San Diego County. The County of San Diego is bounded on the north by Orange and Riverside Counties, on the east by Imperial County, on the west by the Pacific Ocean, and on the south by the Mexican State of Baja California.

### 3.1.1 Local Climate and Meteorology

The San Diego Air Basin climate is largely dominated by the semi-permanent high-pressure system over the Pacific Ocean, which creates a pattern of late-night and early-morning low clouds, hazy afternoon sunshine, daytime onshore breezes, and little temperature variation year round. The San Diego area is classified as having a Mediterranean climate, with warm, dry summers and mild, wet winters. Temperature and precipitation can vary widely within the SDAB, where average annual precipitation ranges from approximately 10 inches in the coastal and inland areas to over 30 inches in the mountains (County of San Diego, 2007). In general, more mild annual temperatures are experienced in the maritime and coastal areas, whereas the interior and desert areas experience warmer summers and cooler winters. The project site is located approximately 2.8 miles inland from the coast.

The high-pressure system drives the prevailing winds in the SDAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases the $O_3$ levels. During winter, San Diego often experiences a shallow inversion layer which tends to increase carbon monoxide and PM2.5 concentration levels due to the increased use of residential wood burning. The SDAB is often impacted by Santa Ana winds during the fall months. These winds blow the air basin's pollutants out to sea; however, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego $O_3$ concentrations. (SDAPCD 2017)

The temperature and precipitation levels for the City of Escondido are in Table 3. Table 3 shows that August is typically the warmest month and January is typically the coolest month. Rainfall in the project area varies considerably in both time and space. Almost all the annual rainfall comes from the fringes of mid-latitude storms from late November to early April, with summers being almost completely dry.

<Table 3, next page>

**Table 3: Meteorological Summary**

| Month | Temperature (˚F) | | Average Precipitation (inches) |
|---|---|---|---|
| | Average High | Average Low | |
| January | 64.9 | 37.1 | 3.2 |
| February | 66.3 | 39.7 | 3.1 |
| March | 68.8 | 42.4 | 2.7 |
| April | 72.2 | 46.0 | 1.3 |
| May | 76.1 | 50.5 | 0.5 |
| June | 82.0 | 54.0 | 0.1 |
| July | 88.2 | 58.0 | 0.0 |
| August | 88.2 | 58.6 | 0.1 |
| September | 85.7 | 55.1 | 0.2 |
| October | 79.0 | 48.7 | 0.7 |
| November | 72.9 | 41.2 | 1.5 |
| December | 66.5 | 37.4 | 2.7 |
| **Annual Average** | **75.9** | **47.4** | **16.2** |

Notes:
[1] Source: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca2862

## 3.1.2 Local Air Quality

The San Diego APCD operates and maintains ten monitoring stations located throughout the region. The purpose of these stations is to measure concentrations of the criteria pollutants and determine whether the ambient air quality meets the NAAQS and the CAAQS. The nearest air monitoring station to the project site with available data is the Kearny Villa Road Monitoring Station (Kearny Villa Station). The Kearny Villa Station is located approximately 19 miles south of the project site at 6125 Kearny Villa Road in San Diego, CA. Table 4 presents the monitored pollutant levels within the vicinity. However, it should be noted that due to the air monitoring station distance from the project site, recorded air pollution levels at the air monitoring station reflect with varying degrees of accuracy, local air quality conditions at the project site.

<Table 4, next page>

**Table 4: Local Area Air Quality Levels**

| Pollutant (Standard)[2] | Year | | |
|---|---|---|---|
| | 2018 | 2019 | 2020 |
| **Ozone:** | | | |
| Maximum 1-Hour Concentration (ppm) | 0.102 | 0.083 | 0.123 |
| Days > CAAQS (0.09 ppm) | **1** | 0 | **2** |
| Maximum 8-Hour Concentration (ppm) | 0.077 | 0.076 | 0.102 |
| Days > NAAQS (0.07 ppm) | **5** | **1** | **10** |
| Days > CAAQS (0.070 ppm) | **5** | **1** | **12** |
| **Carbon Monoxide:** | | | |
| Maximum 1-Hour Concentration (ppm) | * | * | * |
| Days > NAAQS (20 ppm) | * | * | * |
| Maximum 8-Hour Concentration (ppm) | * | * | * |
| Days > NAAQS (9 ppm) | * | * | * |
| **Nitrogen Dioxide:** | | | |
| Maximum 1-Hour Concentration (ppm) | 0.045 | 0.046 | 0.052 |
| Days > NAAQS (0.25 ppm) | 0 | 0 | 0 |
| **Sulfur Dioxide:** | | | |
| Maximum 1-Hour Concentration (ppm) | * | * | * |
| Days > CAAQS (0.25 ppm) | * | * | * |
| **Inhalable Particulates (PM10):** | | | |
| Maximum 24-Hour Concentration (ug/m$^3$) | 38.0 | * | * |
| Days > NAAQS (150 ug/m$^3$) | 0 | 0 | 0 |
| Days > CAAQS (50 ug/m$^3$) | 0 | 0 | 0 |
| Annual Average (ug/m$^3$) | 18.4 | * | * |
| Annual > NAAQS (50 ug/m$^3$) | No | No | No |
| Annual > CAAQS (20 ug/m$^3$) | No | No | No |
| **Ultra-Fine Particulates (PM2.5):** | | | |
| Maximum 24-Hour Concentration (ug/m$^3$) | 32.2 | 16.2 | 47.5 |
| Days > NAAQS (35 ug/m$^3$) | 0 | 0 | **2** |
| Annual Average (ug/m$^3$) | 8.3 | * | * |
| Annual > NAAQS (15 ug/m3) | No | * | * |
| Annual > CAAQS (12 ug/m$^3$) | No | * | * |

[1.] Source: obtained from https://www.arb.ca.gov/adam/topfour/topfour1.php
[2] CAAQS = California Ambient Air Quality Standard; NAAQS = National Ambient Air Quality Standard; ppm = parts per million
[*] No data and/or insufficient data available.

The monitoring data presented in Table 4 shows that ozone and particulate matter (PM10 and PM2.5) are the air pollutants of primary concern in the project area, which are detailed below.

### Ozone

During the 2018 to 2020 monitoring period, the State 1-hour concentration standard for ozone was exceeded 1 day in 2018 and 2 days in 2020 at the Kearny Villa Station. The State 8-hour ozone standard has been exceeded between 1 and 12 days over the past three years at the Kearny Villa Station. The Federal 8-hour ozone standard has been exceeded between 1 and 10 days over the past three years at the Kearny Villa Station.

**Carbon Monoxide**
CO is another important pollutant that is due mainly to motor vehicles. The Kearny Villa Station did not record an exceedance of the state or federal 1-hour or 8-hour CO standards for the last three years.

**Nitrogen Dioxide**
The Kearny Villa Station did not record an exceedance of the State or Federal $NO_2$ standards for the last three years.

**Sulfur Dioxide**
The Kearny Villa Station did not record an exceedance of the State $SO_2$ standards for the last three years.

**Particulate Matter**
During the 2018 to 2020 monitoring period, the State 24-hour concentration standard for PM10 was not exceeded at the Kearny Villa Station. Over the same time period the Federal 24-hour and annual standards for PM10 have not been exceeded at the Kearny Villa Station.

During the 2018 to 2020 monitoring period, the Federal 24-hour standard for PM2.5 was exceeded for two days in 2020 at the Kearny Villa Station

According to the EPA, some people are much more sensitive than others to breathing fine particles (PM10 and PM2.5). People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death due to breathing these fine particles. People with bronchitis can expect aggravated symptoms from breathing in fine particles. Children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive are smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive, because many breathe through their mouths during exercise.

### 3.1.3 Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

The criteria pollutants of primary concern that are considered in this analysis are O3, NO2, CO, SO2, PM10, and PM2.5. Although there are no ambient standards for VOCs or NOx, they are important as precursors to $O_3$. The portion of the SDAB where the project site is located is designated by the EPA as a nonattainment area for the 8-hour NAAQS for $O_3$. The SDAB is designated in attainment for all other criteria pollutants under the NAAQS with the exception of PM10, which was determined to be unclassifiable. The SDAB is currently designated nonattainment for O3 and particulate matter, PM10 and PM2.5, under the CAAQS. It is designated attainment for the CAAQS for CO, NO2, SO2, lead, and sulfate

Table 5 lists the attainment status for the criteria pollutants in the basin.

**Table 5: San Diego County Air Basin Attainment Status**

| Pollutant | Federal Designation | State Designation |
|---|---|---|
| $O_3$ (1 hour) | Attainment[1] | Nonattainment |
| $O_3$ (8-hour) | Nonattainment | Nonattainment |
| CO | Attainment | Attainment |
| $PM_{10}$ | Unclassifiable[2] | Nonattainment |
| $PM_{2.5}$ | Attainment | Nonattainment |
| $NO_2$ | Attainment | Attainment |
| $SO_2$ | Attainment | Attainment |
| Lead | Attainment | Attainment |
| Sulfates | (No federal standard) | Attainment |
| Hydrogen Sulfide | (No federal standard) | Unclassified |
| Visibility-reducing particulates | (No federal standard) | Unclassified |

Notes:
Sources:https://www.sandiegocounty.gov/content/sdc/apcd/en/air-quality-planning/attainment-status.html
[1] The federal 1-hour standard of 0.12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.
[2] At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

## 3.2 Greenhouse Gases

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHG), play a critical role in the Earth's radiation amount by trapping infrared radiation emitted from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide ($CO_2$), methane ($CH_4$), ozone, water vapor, nitrous oxide ($N_2O$), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Anthropogenic (caused or produced by humans) emissions of these greenhouse gases in excess of natural ambient concentrations are responsible for the enhancement of the Greenhouse Effect and have led to a trend of unnatural warming of the Earth's natural climate, known as global warming or climate change. Emissions of gases that induce global warming are attributable to human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses. Transportation is responsible for 41 percent of the State's greenhouse gas emissions, followed by electricity generation. Emissions of $CO_2$ and nitrous oxide ($NO_2$)

are byproducts of fossil fuel combustion. Methane, a potent greenhouse gas, results from off-gassing associated with agricultural practices and landfills. Sinks of $CO_2$, where $CO_2$ is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean. Table 6 provides a description of each of the greenhouse gases and their global warming potential.

Additional information is available: https://www.arb.ca.gov/cc/inventory/data/data.htm

<Table 6 on next page>

## Table 6: Description of Greenhouse Gases

| Greenhouse Gas | Description and Physical Properties | Sources |
|---|---|---|
| Nitrous oxide | Nitrous oxide ($N_20$),also known as laughing gas is a colorless gas. It has a lifetime of 114 years. Its global warming potential is 298. | Microbial processes in soil and water, fuel combustion, and industrial processes. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit $N_20$. |
| Methane | Methane ($CH_4$) is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 25. | A natural source of $CH_4$ is from the decay of organic matter. Methane is extracted from geological deposits (natural gas fields). Other sources are from the decay of organic material in landfills, fermentation of manure, and cattle farming. |
| Carbon dioxide | Carbon dioxide ($CO_2$) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960. | Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. |
| Chlorofluorocarbons | CFCs are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). They are gases formed synthetically by replacing all hydrogen atoms in methane or methane with chlorine and/or fluorine atoms. Global warming potentials range from 3,800 to 8,100. | Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone, therefore their production was stopped as required by the Montreal Protocol. |
| Hydrofluorocarbons | Hydrofluorocarbons (HFCs) are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700. | Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants. |
| Perfluorocarbons | Perfluorocarbons (PFCs) have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above the Earth's surface. They have a lifetime 10,000 to 50,000 years. They have a global warming potential range of 6,200 to 9,500. | Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing. |
| Sulfur hexafluoride | Sulfur hexafluoride ($SF_6$) is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900. | This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection. |

Notes:

1. Sources: Intergovernmental Panel on Climate Change 2014a and Intergovernmental Panel on Climate Change 2014b. https://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html

## 3.3 Energy

### 3.3.1 Overview

California's estimated annual energy use as of 2019 included:

- Approximately 277,704 gigawatt hours of electricity; [8]
- Approximately 2,136,907 million cubic feet of natural gas per year (for the year 2018)[9];and
- Approximately 23.2 billion gallons of transportation fuel (for the year 2015)[10].

As of 2019, the year of most recent data currently available by the United States Energy Information Administration (EIA), energy use in California by demand sector was:

- Approximately 39.3 percent transportation;
- Approximately 23.2 percent industrial;
- Approximately 18.7 percent residential; and
- Approximately 18.9 percent commercial.[11]

California's electricity in-state generation system generates approximately 200,475 gigawatt-hours each year. In 2019, California produced approximately 72 percent of the electricity it uses; the rest was imported from the Pacific Northwest (approximately 9 percent) and the U.S. Southwest (approximately 19 percent). Natural gas is the main source for electricity generation at approximately 42.97 percent of the total in-state electric generation system power as shown in Table 7.

<Table 7, next page>

[8]California Energy Commission. Energy Almanac. Total Electric Generation. [Online] 2020. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation.

[9]Natural Gas Consumption by End Use. U.S. Energy Information Administration. [Online] August 31, 20020.https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_SCA_a.htm.

[10]California Energy Commission. Revised Transportation Energy Demand Forecast 2018-2030. [Online] April 19, 2018. https://www.energy.ca.gov/assessments/

[11]U.S. Energy Information Administration. California Energy Consumption by by End-Use Sector. California State Profile and Energy Estimates.[Online] January 16, 2020 https://www.eia.gov/state/?sid=CA#tabs-2

**Table 7: Total Electricity System Power (California 2019)**

| Fuel Type | California In-State Generation (GWh) | Percent of California In-State Generation | Northwest Imports (GWh) | Southwest Imports (GWh) | Total Imports (GWh) | Percent of Imports | California Power Mix (GWh) | Percent California Power Mix |
|---|---|---|---|---|---|---|---|---|
| Coal | 248 | 0.12% | 219 | 7,765 | 7,985 | 10.34% | 8,233 | 2.96% |
| Natural Gas | 86,136 | 42.97% | 62 | 8,859 | 8,921 | 11.55% | 95,057 | 34.23% |
| Nuclear | 16,163 | 8.06% | 39 | 8,743 | 8,782 | 11.37% | 24,945 | 8.98% |
| Oil | 36 | 0.02% | 0 | 0 | 0 | 0.00% | 36 | 0.01% |
| Other (Petroleum Coke/Waste Heat) | 411 | 0.20% | 0 | 11 | 11 | 0.01% | 422 | 0.15% |
| Large Hydro | 33,145 | 16.53% | 6,387 | 1,071 | 7,458 | 9.66% | 40,603 | 14.62% |
| Unspecified Sources of Power | 0 | 0.00% | 6,609 | 13,767 | 20,376 | 26.38% | 20,376 | 7.34% |
| Renewables | 64,336 | 32.09% | 10,615 | 13,081 | 23,696 | 30.68% | 88,032 | 31.70% |
| Biomass | 5,851 | 2.92% | 903 | 33 | 936 | 1.21% | 6,787 | 2.44% |
| Geothermal | 10,943 | 5.46% | 99 | 2,218 | 2,318 | 3.00% | 13,260 | 4.77% |
| Somall Hydro | 5,349 | 2.67% | 292 | 4 | 296 | 0.38% | 5,646 | 2.03% |
| Solar | 28,513 | 14.22% | 282 | 5,295 | 5,577 | 7.22% | 34,090 | 12.28% |
| Wind | 13,680 | 6.82% | 9,038 | 5,531 | 14,569 | 18.87% | 28,249 | 10.17% |
| **Total** | 200,475 | 100.00% | 23,930 | 53,299 | 77,229 | 100.00% | 277,704 | 100.00% |

Notes:
[1] Source: California Energy Commission. 2019 Total System electric Generation. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation

A summary of and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below:

- California was the seventh-largest producer of crude oil among the 50 states in 2018, and, as of January 2019, it ranked third in oil refining capacity.
- California is the largest consumer of jet fuel among the 50 states and accounted for one-fifth of the nation's jet fuel consumption in 2018.
- California's total energy consumption is the second-highest in the nation, but, in 2018, the State's per capita energy consumption ranked the fourth-lowest, due in part to its mild climate and its energy efficiency programs.
- In 2018, California ranked first in the nation as a producer of electricity from solar, geothermal, and biomass resources and fourth in the nation in conventional hydroelectric power generation.

- In 2018, large- and small-scale solar PV and solar thermal installations provided 19% of California's net electricity generation[12].

As indicated above, California is one of the nation's leading energy-producing states, and California per capita energy use is among the nation's most efficient. Given the nature of the proposed project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the project—namely, electricity and natural gas for building uses, and transportation fuel for vehicle trips associated with the proposed project.

### 3.3.2 Electricity and Natural Gas

Electricity and natural gas would be provided to the project by San Diego Gas & Electric (SDG&E). SDG&E provides electrical and natural gas service to the project area through State-regulated utility contracts. SDG&E provides electric energy service to 3.6 million people located in most of San Diego County and the southern portion of Orange County, within a service area encompassing approximately 4,100 square miles.[13] The delivery of electricity involves a number of system components, including substations and transformers that lower transmission line power (voltage) to a level appropriate for on-site distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. In 2020, SDG&E provided 17,445 Gigawatt-hours per year of electricity.[14]

Table 8 identifies SDG&E's specific proportional shares of electricity sources in 2019. As shown in Table 8, the 2019 SDG&E Power Mix has renewable energy at 31.3 percent of the overall energy resources, of which biomass and waste is at 2 percent, solar energy is at 17 percent, and wind power is at 13 percent; other energy sources include natural gas at 24 percent and unspecified sources at 44 percent.

Natural gas is delivered through a nation-wide network of high-pressure transmission pipelines. In 2020, SDG&E provided 505.2 Million Therms of natural gas.[15]

The following summary of natural gas resources and service providers, delivery systems, and associated regulation is excerpted from information provided by the California Public Utilities Commission (CPUC).

The CPUC regulates natural gas utility service for approximately 11 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller investor-owned natural gas utilities. The CPUC also regulates independent storage operators Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.

12 State Profile and Energy Estimates. Independent Statistics and Analysis. [Online] [Cited: January 16, 2020.] http://www.eia.gov/state/?sid=CA#tabs2.
13 https://www.sdge.com/more-information/our-company
14 Obtained from http://www.ecdms.energy.ca.gov/elecbyutil.aspx
15 Obtained from http://www.ecdms.energy.ca.gov/gasbyutil.aspx

California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.

The vast majority of California's natural gas customers are residential and small commercial customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.

The PUC regulates the California utilities' natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering and billing.

Most of the natural gas used in California comes from out-of-state natural gas basins. In 2017, for example, California utility customers received 38% of their natural gas supply from basins located in the U.S. Southwest, 27% from Canada, 27% from the U.S. Rocky Mountain area, and 8% from production located in California."[16]

<Table 8, next page>

[16]California Public Utilities Commission. Natural Gas and California. http://www.cpuc.ca.gov/natural_gas/

**Table 8: SDG&E 2019 Power Content Mix**

| Energy Resources | 2019 SDG&E Power Mix |
|---|---|
| Eligible Renewable[1] | 31.3% |
| Biomass & Biowaste | 2% |
| Geothermal | 0% |
| Eligible Hydroelectric | 0% |
| Solar | 17% |
| Wind | 13% |
| Coal | 0% |
| Large Hydroelectric | 0% |
| Natural Gas | 24% |
| Nuclear | 0% |
| Other | 0% |
| Unspecified Sources of power[2] | 44% |
| Total | 100% |

Notes:
Source: 'https://www.sdge.com/sites/default/files/documents/FINAL_S2010027_DecOnsert20.pdf
(1) The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology.
(2) Unspecified sources of power means electricity from transactions that are not traceable to specific generation sources.

### 3.3.3 Transportation Energy Resources

The project would attract additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. Gasoline (and other vehicle fuels) are commercially-provided commodities and would be available to the project patrons and employees via commercial outlets.

The most recent data available shows the transportation sector emits 40 percent of the total greenhouse gases in the state and about 84 percent of smog-forming oxides of nitrogen (NOx).[17,18] About 28 percent of total United States energy consumption in 2019 was for transporting people and goods from one place to another. In 2019, petroleum comprised about 91 percent of all transportation energy use, excluding fuel consumed for aviation and most marine vessels.[19] In 2020, about 123.49

[17] CARB. California Greenhouse Gas Emissions Inventory – 2020 Edition. https://www.arb.ca.gov/cc/inventory/data/data.htm

[18] CARB. 2016 SIP Emission Projection Data. https://www.arb.ca.gov/app/emsinv/2017/emseic1_query.php?F_DIV=-4&F_YR=2012&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA

[19] US Energy Information Administration. Use of Energy in the United States Explained: Energy Use for Transportation. https://www.eia.gov/energyexplained/?page=us_energy_transportation

billion gallons (or about 2.94 billion barrels) of finished motor gasoline were consumed in the United States, an average of about 337 million gallons (or about 8.03 million barrels) per day.[20]

[20] https://www.eia.gov/tools/faqs/faq.php?id=23&t=10

# *4.0 Modeling Parameters and Assumptions*

## 4.1 Construction

Typical emission rates from construction activities were obtained from CalEEMod Version 2020.4.0 The CalEEMod program uses the EMFAC2017 computer program to calculate the emission rates specific for the southwestern portion of San Diego County for construction-related employee vehicle trips and the OFFROAD2011 computer program to calculate emission rates for heavy truck operations. EMFAC2017 and OFFROAD2011 are computer programs generated by CARB that calculates composite emission rates for vehicles. Emission rates are reported by the program in grams per trip and grams per mile or grams per running hour. Using CalEEMod, the peak daily air pollutant emissions were calculated and presented below. These emissions represent the highest level of emissions for each of the construction phases in terms of air pollutant emissions.

The analysis assesses the emissions associated with the construction of the proposed project as indicated in Table 1. Using CalEEMod default timelines for construction phases and the proposed operational date, the proposed project was modeled as beginning construction November 2022 and being completed by December 2023. However, after a change to the project schedule, construction is now anticipated to begin March 2023. This does not pose an issue as CalEEMod utilizes EMFAC emission factors which estimates emission rates to decrease over time due to increased efficiencies of equipment and vehicles. The phases of the construction activities which have been analyzed below are: 1) grading, 2) building, 3) paving, and 4) architectural coating. For details on construction modeling and construction equipment for each phase, please see Appendix A.

The project would be required to comply with SDAPCD Rules 52, 54, and 55 which identify measures to reduce fugitive dust and are required to be implemented at all construction sites located within the SDAB. The requirements to reduce fugitive dust in compliance with SDAPCD Rules 52, 54, and 55 were included in CalEEMod for the grading phase of construction.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the project includes the use of low-VOC paint (50 grams per liter [g/L] for not flat coatings for the buildings and 100 [g/L] for parking lot striping) as required by SDAPCD Rule 67.0.1.

## 4.2 Operations

Operational or long-term emissions occur over the life of the Project. Both mobile and area sources generate operational emissions. Area source emissions arise from consumer product usage, heaters that consume natural gas, gasoline-powered landscape equipment, and architectural coatings (painting). Mobile source emissions from motor vehicles are the largest single long-term source of air pollutants from the operation of the Project. Small amounts of emissions would also occur from area sources such as the consumption of natural gas for heating, hearths, and consumer product usage. The operational emissions were estimated using the latest version of CalEEMod.

**Mobile Sources**

Mobile sources include emissions from the additional vehicle miles generated from the proposed project. The vehicle trips associated with the proposed project are based upon the trip generation rates provided by Linscott, Law, & Greenspan Engineers which uses SANDAG's (Not So) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region (SANDAG 2002). The project would generate approximately 602 total trips with 82 morning peak hour trips and 84 evening peak hour trips.

The program then applies the emission factors for each trip which is provided by the EMFAC2017 model to determine the vehicular traffic pollutant emissions. The CalEEMod default trip lengths were used in this analysis. Please see CalEEMod output comments sections in Appendix A and B for details.

**Area Sources**

Area sources include emissions from consumer products, landscape equipment and architectural coatings. Landscape maintenance includes fuel combustion emissions from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers, as well as air compressors, generators, and pumps. As specifics were not known about the landscaping equipment fleet, CalEEMod defaults were used to estimate emissions from landscaping equipment.

The architectural coating phase involves the greatest release of VOCs. The emissions modeling for the project includes the use of low-VOC paint (50 grams per liter [g/L] for not flat coatings for the buildings and 100 [g/L] for parking lot striping) as required by SDAPCD Rule 67.0.1.

**Energy Usage**

2020.4.0 CalEEMod defaults were utilized.

**Solid Waste Sources**

Solid waste sources include emissions from disposal of solid waste into landfills.

**Energy Usage**

2020.4.0 CalEEMod defaults were utilized. CalEEMod outputs can be found in Appendices A and B.

# *5.0 Thresholds of Significance*

## 5.1 Air Quality Thresholds of Significance

### 5.1.1 CEQA Guidelines for Air Quality

The CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on air quality, the type, level, and impact of emissions generated by the project must be evaluated.

The following air quality significance thresholds are contained in Appendix G of the CEQA Guidelines. A significant impact would occur if the project would:

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

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable national or state ambient air quality standard;

c) Expose sensitive receptors to substantial pollutant concentrations; or

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

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SDAPCD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts.

### 5.1.2 Regional Significance Thresholds

The SDAPCD has established thresholds in Rule 20.2 for new or modified stationary sources. The County's Guidelines for Determining Significance and Report Format and Content Requirements include screening level thresholds for all County related Air Quality Impact Assessments (AQIA) and for determining CEQA air quality impacts.[21] These daily screening thresholds for construction and operations are shown in Table 9 below.

[21] https://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf

**Table 9: SDAPCD Air Quality Significance Thresholds**

| Pollutant | Total Emissions | | |
|---|---|---|---|
| | Pounds per Hour | Pounds Per Day | Pounds Per Year |
| VOCs | - | 100 | 15 |
| NOx | - | 55 | 10* |
| CO | 25 | 250 | 40 |
| SOx | 25 | 250 | 40 |
| PM10 | 100 | 550 | 100 |
| PM2.5 | - | 3.2 | 0.6 |
| Lead* | - | 75** | 13.7** * |

Notes:
Source: San Diego County. March 2007. County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality. http://www.sandiegocounty.gov/content/dam/sdc/pds/ProjectPlanning/docs/AQ-Guidelines.pdf.
*EPA "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005. Also used by the SCAQMD.
** Threshold for VOCs based on the threshold of significance for VOCs from the South Coast Air Quality Management District for the Coachella Valley.
*** 13.7 Tons Per Year threshold based on 75 lbs/day multiplied by 365 days/year and divided by 2000 lbs/ton.

The thresholds listed above, and in Table 9, represent screening-level thresholds that can be used to evaluate whether project-related emissions could cause a significant impact on air quality. Emissions below the screening-level thresholds would not cause a significant impact. For nonattainment pollutants, if emissions exceed the thresholds shown in Table 9, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

With respect to odors, SDAPCD Rule 51 (Public Nuisance) prohibits emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of off-site receptors.

## 5.2 Greenhouse Gas Thresholds of Significance

### 5.2.1 CEQA Guidelines for Greenhouse Gas

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

However, despite this, currently neither the CEQA statutes, OPR guidelines, nor the draft proposed changes to the CEQA Guidelines prescribe thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the Lead Agency.

The GHG emissions screening threshold was developed as part of the City of Escondido Climate Action Plan (E-CAP) development review process.[22] Following the State's adopted AB 32 GHG reduction target, the E-CAP sets a goal to reduce its GHG emissions back to 1990 levels by the year 2020. This target was calculated as a 15-percent decrease from 2005 levels, as recommended in the AB 32 Scoping Plan.

The City of Escondido Greenhouse Gas Emissions Adopted CEQA Thresholds and Screening Tables document identifies a threshold level of 2,500 metric tons (MT) of carbon dioxide equivalents (CO2e) per year to identify individual land use development projects that may be required to quantify and mitigate project emissions.[23] Projects that would emit less than 2,500 MT CO2e per year are considered to have no impact.

As a land use development project, the most directly applicable adopted regulatory plan to reduce GHG emissions is the SANDAG's Regional Plan, which is designed to achieve regional GHG reductions from the land use and transportation sectors as required by SB 375 and the state's long-term climate goals. This analysis also considers consistency with regulations and requirements adopted by the Scoping Plan and the City's CAP. Furthermore, the OPR has noted that lead agencies should make a good-faith effort to calculate or estimate GHG emissions from a project.[24] Therefore, the GHG emissions have also been quantified below, consistent with OPR guidelines. As recommended by the Association of Environmental Professionals in the 2016 Final White Paper, construction-related emissions are amortized over a 30-year period in conjunction with the proposed project's operational emissions (AEP 2016).

## 5.3 Energy Significance Thresholds

In compliance with Appendix G of the State CEQA Guidelines, this report analyzes the project's anticipated energy use to determine if the project would:

a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

[22] https://www.escondido.org/climate-action-plan-documents.aspx
[23] https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/CEQAThresholdsAndScreeningTables.pdf
[24] OPR Technical Advisory, page 5.

In addition, Appendix F of the State CEQA Guidelines states that the means of achieving the goal of energy conservation includes the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

Appendix F of the State CEQA guidelines also states that the environmental impacts from a project can include:

- The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- The effects of the project on peak and base period demands for electricity and other forms of energy.
- The degree to which the project complies with existing energy standards.
- The effects of the project on energy resources.
- The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

# *6.0 Air Quality Emissions Impact*

## 6.1 Construction Air Quality Emissions Impact

The latest version of CalEEMod was used to estimate the construction emissions. The emissions incorporate adherence to SDAPCD Rules 51, 52, 54, 55, 67, and 1200 (as identified in Section 4.1 above). Adherence to these rules are not considered mitigation measures as the project by default is required to incorporate these rules during construction.

### 6.1.1 Temporary Construction Emissions

The construction emissions for the project would not exceed the City's screening level thresholds during project construction, as demonstrated in Table 10, and therefore would be considered less than significant. Construction modeling parameters and assumptions can be found in Section 4.1.

**Table 10: Estimated Maximum Daily Construction Criteria Air Pollutant Emissions**

| Activity | Pollutant Emissions[1] | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | $SO_2$ | PM10 | PM2.5 |
| **Daily Construction Emissions (pounds/day)** | | | | | | |
| 2022 Maximum | 2.97 | 57.75 | 24.41 | 0.17 | 12.04 | 5.68 |
| 2023 Maximum | 20.42 | 16.22 | 19.05 | 0.04 | 1.73 | 0.95 |
| SDAPCD Screening Threshold | 75 | 250 | 550 | 250 | 100 | 55 |
| **Exceeds Threshold?** | **No** | **No** | **No** | **No** | **N0** | **No** |
| **Annual Construction Emissions (tons/year)** | | | | | | |
| 2022 Maximum | 0.05 | 0.55 | 0.45 | 0.00 | 0.07 | 0.03 |
| 2023 Maximum | 0.38 | 1.66 | 1.97 | 0.00 | 0.17 | 0.10 |
| SDAPCD Screening Threshold | 13.7 | 40 | 100 | 40 | 15 | 10 |
| **Exceeds Threshold?** | **No** | **No** | **No** | **No** | **N0** | **No** |

Notes:
Source: CalEEMod Version 2020.4.0
[1] Grading phases incorporate anticipated emissions reductions required by SDAPCD Rules 52, 54, and 55 to reduce fugitive dust. The architectural coating phases incorporate anticipated emissions reductions required by SDAPCD Rule 67.

### 6.1.2 Construction-Related Toxic Air Contaminant Impact

The greatest potential for toxic air contaminant emissions would be related to diesel particulate emissions associated with heavy equipment operations during construction of the proposed project. The Office of Environmental Health Hazard Assessment (OEHHA) has issued the Air Toxic Hot Spots Program Risk Assessment Guidelines and Guidance Manual for the Preparation of Health Risk Assessments, February 2015 to provide a description of the algorithms, recommended exposure variates, cancer and noncancer health values, and the air modeling protocols needed to perform a health risk assessment (HRA) under the Air Toxics Hot Spots Information and Assessment Act of 1987. Hazard identification includes identifying all substances that are evaluated for cancer risk and/or noncancer acute, 8-hour, and chronic health impacts. In addition, identifying any multi-pathway substances that present a cancer risk or chronic noncancer hazard via non-inhalation routes of exposure.

CARB In-Use Off-Road Diesel-Fueled Fleets Regulation limits unnecessary idling to 5 minutes, requires all construction fleets to be labeled and reported to CARB, bans Tier 0 equipment, and phases out Tier 1 and 2 equipment thereby replacing fleets with cleaner equipment, and requires that fleets comply with Best Available Control Technology requirements.

The closest existing sensitive receptors (to the site area) are the existing mobile home park located approximately 50 feet to the west and the existing single-family detached residential dwelling units located approximately 0.18 miles (~290 meters) southwest and 0.19 miles (~305 meters) southeast of the project site.

Given the relatively limited number of heavy-duty construction equipment and construction schedule, the proposed project can qualitatively be determined to not result in a long-term substantial source of toxic air containment emissions and corresponding individual cancer risk. Furthermore, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed any local or regional thresholds. Therefore, no significant short-term toxic air contaminant impacts would occur during construction of the proposed project.

## 6.2 Operational Air Quality Emissions Impact

### 6.2.1 Operational Emissions

The operations-related criteria air quality impacts created by the proposed project have been analyzed through the use of CalEEMod model. The operating emissions were based on year 2023, which is the anticipated opening year for the project. The summer and winter emissions created by the proposed project's long-term operations were calculated and the highest emissions from either summer or winter are summarized in Table 10. Emissions were modeled according to the parameters and assumptions established in Section 4.2.

**Table 10: Estimated Maximum Daily Operational Criteria Air Pollutant Emissions**

| Activity | Pollutant Emissions (pounds/day)[1] | | | | | |
|---|---|---|---|---|---|---|
| | **VOC** | **NOx** | **CO** | **SO2** | **PM10** | **PM2.5** |
| Area Sources[2] | 1.63 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| Energy Usage[3] | 0.01 | 0.12 | 0.10 | 0.00 | 0.01 | 0.01 |
| Mobile Sources[4] | 1.74 | 1.90 | 15.62 | 0.03 | 3.34 | 0.91 |
| **Total Emissions** | **3.38** | **2.01** | **15.74** | **0.03** | **3.35** | **0.92** |
| SDAPCD Screening Level Thresholds | **75** | **250** | **550** | **250** | **100** | **55** |
| Exceeds Threshold? | No | No | No | No | No | No |

[1] Source: CalEEMod Version 2020.4.0
[2] Area sources consist of emissions from consumer products, architectural coatings, and landscaping equipment.
[3] Energy usage consists of emissions from on-site natural gas usage.
[4] Mobile sources consist of emissions from vehicles and road dust.

The data in Table 10 shows that emissions from the operation of the proposed project does not exceed SDAPCD thresholds. Therefore, the impact is considered less than significant.

## 6.3 CO Hot Spot Emissions

CO is the pollutant of major concern along roadways because the most notable source of CO is motor vehicles. To determine if the proposed project could cause emission levels in excess of the CO standards, discussed above, a sensitivity analysis is typically conducted to determine the potential for CO "hot spots" at a number of intersections in the general project vicinity. Because of reduced speeds and vehicle queuing, "hot spots" potentially can occur at high traffic volume intersections with a Level of Service E or worse. The SDAB is in attainment of State and federal CO standards. Nonetheless, a CO hotspot analysis is required by the County if a proposed development would cause road intersections to operate at or below LOS E while exceeding 3,000 peak-hour trips.

The project would generate approximately 602 total trips with 82 morning peak hour trips and 84 evening peak hour trips, as estimated by Linscott Law and Greenspan Engineers (2021). Per the City of Escondido General Plan, Downtown Specific Plan, and Climate Action Plan EIR (2012),[25] the intersection of Nordahl Road/Auto Park Way/Mission Road already operates at LOS E under both the Existing Year 2011 conditions and the Year 2035 conditions for both morning and evening peak hours. In addition, the intersections of Nordahl Road/SR-78 Westbound Ramps and Nordahl Road/SR-78 Eastbound Ramps were identified as operating at LOS C under both the Existing Year 2011 conditions and the Year 2035 conditions during the morning peak hour. During the evening peak hour, the Nordahl Road/SR-78 Westbound Ramps operated at LOS C during Existing Year 2011 conditions and LOS D during Year 2035 conditions, while the Nordahl Road/SR-78 Eastbound Ramps operated at LOS D during Existing Year 2011 conditions and LOS D during Year 2035 conditions. Therefore, no signalized intersection near the project site is anticipated to operate at LOS E or worse as a result of the project. Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations, and the project is considered to have no impact.

## 6.4 Odors

SDAPCD Rule 51, commonly referred to as the public nuisance rule, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The potential for an operation to result in odor complaints from a "considerable" number of persons in the area would be considered to be a significant, adverse odor impact.

Potential sources that may emit odors during construction activities include the application of materials such as asphalt pavement. The objectionable odors that may be produced during the construction process are of short-term in nature and the odor emissions are expected cease upon the drying or hardening of the odor producing materials. Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the

[25] https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/Vol1Traffic.pdf

nearest sensitive receptors. Furthermore, construction emissions would not exceed SDAPCD thresholds. Due to the short-term nature and limited amounts of odor producing materials being utilized, no significant impact related to odors would occur during construction of the proposed project.

Land uses and industrial operations typically associated with odor complains include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, refineries, landfills, dairies, and fiberglass molding. The proposed project is a 68,900 square foot unrefrigerated warehouse spec building. The anticipated uses for the proposed industrial use are not typically associated with objectionable odors. Therefore, no significant impact related to odors would occur during the on-going operations of the proposed project.

## 6.5 Cumulative Regional Air Quality Impacts

Cumulative projects include local development as well as general growth within the project area. For cumulative impacts from the project, the analysis must specifically evaluate contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the project does not exceed thresholds and is determined to have less than-significant project-specific impacts, it may still contribute to a significant cumulative air quality impact if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the project would only be considered to have a significant cumulative impact if the project's contribution accounts for a significant proportion of the cumulative total emissions (i.e., it represents a "cumulatively considerable contribution" to the cumulative air quality impact).

The project area is out of attainment for $O_3$ for federal standards and $O_3$, $PM_{10}$, and $PM_{2.5}$. $PM_{10}$ and $PM_{2.5}$ for state standards. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality of the SDAB. As discussed previously, the construction related emissions will be below the significance levels of SDAPCD and would not result in significant impacts to air quality. Construction would be short-term and temporary in nature. Once construction is completed, construction-related emissions would cease. As shown above, operational emissions generated by the project would not exceed the significance thresholds established by the SDAPCD. Therefore, the proposed project would result in no impacts related to criteria pollutant emission from construction and operation.

The San Diego County Regional Air Quality Strategy (RAQS) and State Implementation Plan (SIP) rely on San Diego Association of Government (SANDAG) growth projections, which are based in part on city and San Diego County (County) general plans. As such, projects that propose development consistent with the growth anticipated by the applicable general plan(s) are consistent with the RAQS and applicable portions of the SIP. It is assumed that a project which conforms to the City's General Plan, and does not have emissions exceeding operational thresholds, will not create a cumulatively considerable net increase to ozone since the emissions were accounted for in the RAQS. The project proposes to construct a 68,900 square foot industrial building including 51,750 square feet of manufacturing/warehouse use and 17,150 square feet of office use on an approximately 5 -acre site

with a land use designation of Light Industrial (LI) and a zoning designation of Planned Development – Industrial (PD-I). Per the General Plan, the LI designation typically provides for a variety of uses in an industrial environment including light manufacturing, warehouse, distribution, assembly, and wholesale uses; lighter industrial and office type uses are intended as well as industries that generate moderate daytime and minimum nighttime noise levels and require limited or no outside storage; and uses that provide supporting products or services for the primary businesses.[26] Therefore, the project would be consistent with the existing general plan and zoning for the City of Escondido; therefore, the project would be considered consistent with the RAQS. Furthermore, operational emissions generated by the project would be below the established significance thresholds for criteria pollutants, and the project's operational emissions would not result in a cumulatively considerable contribution to the region's poor air quality. Cumulative air quality impacts would, therefore, be considered to have no impact.

## 6.6 Air Quality Compliance

The California Environmental Quality Act (CEQA) requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the RAQS. Therefore, this section discusses any potential inconsistencies of the proposed project with the RAQS.

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the RAQS and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

The RAQS relies on information from CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions in order to project future emissions and determine strategies necessary for the reduction of stationary source emissions. Those projects that propose development that is consistent with the City's General Plan are; therefore, consistent with the RAQS.

According to demographic and socioeconomic estimates provided by the SANDAG Fast Facts, the City of Escondido is forecast to increase the number of jobs by 109 percent between 2000 and 2050 from 49,716 jobs to 74,915 jobs (SANDAG 2011).[27] The project is an industrial use that would include additional employees in the area, and these positions would be expected to be filled by Escondido residents. Because the project is not residential it would not generate direct population or housing growth and the relatively small employment growth associated with the project would be consistent with SANDAG's employment forecast and the City's General Plan. Therefore, the project is consistent

[26] https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/GPUpdate/GeneralPlanChapterII.pdf
[27] https://www.sandag.org/resources/demographics_and_other_data/demographics/fastfacts/esco.htm

with the RAQS.

# *7.0 Greenhouse Gas Impact Analysis*

## 7.1 Construction Greenhouse Gas Emissions Impact

The greenhouse gas emissions from project construction equipment and worker vehicles are shown in Table 12. The emissions are from all phases of construction. Construction-related emissions are amortized over a 30-year period in conjunction with the proposed project's operational emissions as recommended by Association of Environmental Processionals (AEP 2016).

The total construction emissions amortized over a period of 30 years are estimated at 17.18 metric tons of $CO_2e$ per year. Annual CalEEMod output calculations are provided in Appendix B.

**Table 12: Estimated Annual Construction Greenhouse Gas Emissions**

| Year | | Metric Tons Per Year | | | | |
|---|---|---|---|---|---|---|
| | Bio-CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e (MT) |
| 2022 | 0.00 | 132.30 | 132.30 | 0.02 | 0.01 | 136.02 |
| 2023 | 0.00 | 374.12 | 374.12 | 0.06 | 0.01 | 379.28 |
| **Total** | 0.00 | 522.15 | 522.15 | 0.09 | 0.02 | 531.20 |
| | | | | | **Annualized Construction Emissions** | 17.18 |

Notes:
1. $MTCO_2e$=metric tons of carbon dioxide equivalents (includes carbon dioxide, methane and nitrous oxide).
2. The emissions are averaged over 30 years.
* CalEEMod output (Appendix B)

## 7.2 Operational Greenhouse Gas Emissions Impact

Operational emissions occur over the life of the project. Table 13 shows that the total for the proposed project's emissions (baseline emissions without credit for any reductions from sustainable design and/or regulatory requirements) would be 793.67 metric tons of $CO_2e$ per year. Therefore, the proposed project's total annual GHG emissions resulting from construction and operational activities would not exceed the City's threshold of 2,500 MT CO2e per year. There would be no impacts.

**Table 13: Opening Year Project-Related Greenhouse Gas Emissions**

| Category | Greenhouse Gas Emissions (Metric Tons/Year)[1] | | | | | |
|---|---|---|---|---|---|---|
| | Bio-CO2 | NonBio-$CO_2$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Area Sources[2] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy Usage[3] | 0.00 | 128.04 | 128.04 | 0.01 | 0.00 | 128.56 |
| Mobile Sources[4] | 0.00 | 533.51 | 533.51 | 0.04 | 0.02 | 541.83 |
| Solid Waste[5] | 13.11 | 0.00 | 13.11 | 0.77 | 0.00 | 32.48 |
| Water[6] | 4.76 | 52.97 | 57.73 | 0.49 | 0.01 | 73.61 |
| **Subtotal Emissions** | 17.87 | 714.52 | 732.40 | 1.31 | 0.04 | **776.49** |
| | | | | | **Amortized Construction Emissions** | **17.18** |
| | | | | | **Total Emissions** | **793.67** |
| | | | | | **City of Escondido Threshold** | **2,500** |
| | | | | | **Exceeds Threshold?** | **No** |

Notes:
[1] Source: CalEEMod Version 2020.4.0
[2] Area sources consist of GHG emissions from consumer products, architectural coatings, and landscape equipment.

[3] Energy usage consist of GHG emissions from electricity and natural gas usage.
[4] Mobile sources consist of GHG emissions from vehicles.
[5] Solid waste includes the $CO_2$ and $CH_4$ emissions created from the solid waste placed in landfills.
[6] Water includes GHG emissions from electricity used for transport of water and processing of wastewater.
[7] Construction GHG emissions based on a 30 year amortization rate.

## 7.3 Greenhouse Gas Plan Consistency

The proposed project could have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The project's GHG impacts are evaluated by assessing the project's consistency with applicable statewide, regional, and local GHG reduction plans and strategies.

The Office of Planning and Research (OPR) encourages lead agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. The City has adopted the City of Escondido CAP which encourage and require applicable projects to implement energy efficiency measures. In addition, the California Climate Action Team (CAT) Report provides recommendations for specific emission reduction strategies for reducing GHG emissions and reaching the targets established in AB 32 and Executive Order S-3-05. On a statewide level, the 2008 Climate Change Scoping Plan provides measures to achieve AB 32 targets. On a regional level, the SANDAG's Regional Plan contains measures to achieve VMT reductions required under SB 375. Thus, if the project complies with these plans, policies, regulations, and requirements, the project would result in a less than significant impact because it would be consistent with the overarching state, regional, and local plans for GHG reduction.

A consistency analysis is provided below and describes the project's compliance with or exceedance of performance-based standards included in the regulations outlined in the applicable portions of the City of Escondido CAP, 2008 and 2017 Climate Change Scoping Plan, and SANDAG's Regional Plan.

*City of Escondido CAP Consistency Analysis*

As previously discussed, the E-CAP applies a screening threshold of 2,500 MT CO2e per year to comply with the reduction goals of AB 32. The proposed project's increase in GHG emissions would be less than the City's screening threshold and would be consistent with the E-CAP. Implementation of the proposed project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This would represent no impact.

Additionally, the City of Escondido CAP checklist has been completed showing the project will have no impact and is included in Appendix D.

*Consistency with SANDAG's San Diego Forward: the Regional Plan*

Regarding consistency with SANDAG's Regional Plan, the proposed project would include site design elements and project design features developed to support the policy objectives of the RTP and SB 375.

Table 14 illustrates the proposed project's consistency with all applicable goals and policies of the Regional Plan (SANDAG 2015).

**Table 14: Project Consistency with San Diego Forward: The Regional Plan[1]**

| Category | Policy Objective or Strategy | Consistency Analysis |
|---|---|---|
| The Regional Plan - Policy Objectives | | |
| Mobility Choices | Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play. | Consistent. The proposed project is be located near bus stops and CA-78. |
| Mobility Choices | Take advantage of new technologies to make the transportation system more efficient and environmentally friendly. | Not applicable. The proposed project would not impair SANDAG's ability to employ new technologies to make travel more reliable and convenient. |
| Habitat and Open Space Preservation | Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas. | Consistent. The proposed project is surrounded by existing residential and commercial development and would be located close to major urban centers. Furthermore, the proposed project would also be a source of employment. |
| Habitat and Open Space Preservation | Protect and restore our region's urban canyons, coastlines, beaches, and water resources. | Not Applicable. The proposed project would not impair the ability of SANDAG to protect and restore urban canyons, coastlines, beaches, and water resources. Furthermore, the proposed project is located in an already developed area. |
| Regional Economic Prosperity | Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages. | Not Applicable. The proposed project would not impair the ability of SANDAG to invest in transportation projects available to all members of the Community. |
| Regional Economic Prosperity | Build infrastructure that makes the movement of freight in our community more efficient and environmentally friendly. | Consistent. The project proposes the development of the site with a warehouse building and the site is located near CA-78. |
| Partnerships/Collaboration | Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the mega-region and national network, works for everyone, and fosters a high quality of life for all. | Not Applicable. The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico, neighboring counties, and tribal nations. |

| Category | Policy Objective or Strategy | Consistency Analysis |
|---|---|---|
| Partnerships/Collaboration | As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California. | Not Applicable. The proposed project would not impair the ability of SANDAG to provide transportation choices to better connect the San Diego region with Mexico. |
| Healthy and Complete Communities | Create great places for everyone to live, work, and play. | Consistent. The proposed project is an industrial project with a current land use designation of Light Industrial (LI) according to the City of Escondido General Plan. The proposed industrial project is located near bus stops and CA-78. The project site is also surrounded by existing residential and commercial uses. |
| Healthy and Complete Communities | Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking. | Consistent. The proposed project is be located near bus stops and CA-78. The project site is also surrounded by existing residential and commercial uses. |
| Environmental Stewardship | Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living. | The proposed project is be located near bus stops and CA-78. |
| Environmental Stewardship | Support energy programs that promote sustainability. | Consistent. The proposed project would be in compliance with the current building standards. |
| Sustainable Communities Strategy - Strategies | | |
| Strategy Number 1 | Focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, including transit. | Consistent. The proposed project would be located close to major urban centers as it is located near bus stops and CA-78 and is surrounded by existing commercial and residential development. Furthermore, the proposed project would also be a source of employment. |
| Strategy Number 2 | Protect the environment and help ensure the success of smart growth land use policies by preserving sensitive habitat, open space, cultural resources, and farmland. | Consistent. The proposed project would be located close to major urban centers as it is located near bus stops and CA-78 and is surrounded by existing commercial and residential development. |
| Strategy Number 3 | Invest in a transportation network that gives people transportation choices and reduces greenhouse gas emissions. | Consistent. The proposed project is an industrial project located near bus stops and CA-78. |

| Category | Policy Objective or Strategy | Consistency Analysis |
|---|---|---|
| Strategy Number 4 | Address the housing needs of all economic segments of the population. | Not Applicable. The proposed project would not impair the ability of SANDAG to address housing needs of all economic segments of the population. |
| Strategy Number 5 | Implement the Regional Plan through incentives and collaboration. | Not Applicable. The proposed project would not impair the ability of SANDAG to implement the Regional Transportation Plan through incentives and collaborations. |

Notes:
MTS = San Diego Metropolitan Transit System; SANDAG = San Diego Association of Governments.

[1] Source: SANDAG, 2015.

As shown in Table 14, the proposed project is consistent with all applicable Regional Plan Policy Objectives or Strategies. Impacts would be less than significant.

*CARB Scoping Plan Consistency*

The ARB Board approved a Climate Change Scoping Plan in December 2008. The Scoping Plan outlines the State's strategy to achieve the 2020 greenhouse gas emissions limit. The Scoping Plan "proposes a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California, improve our environment, reduce our dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health" (California Air Resources Board 2008). The measures in the Scoping Plan have been in place since 2012.

In November 2017, CARB release the 2017 Scoping Plan. This Scoping Plan incorporates, coordinates, and leverages many existing and ongoing efforts and identifies new policies and actions to accomplish the State's climate goals, and includes a description of a suite of specific actions to meet the State's 2030 GHG limit. In addition, Chapter 4 provides a broader description of the many actions and proposals being explored across the sectors, including the natural resources sector, to achieve the State's mid and long-term climate goals.

Guided by legislative direction, the actions identified in the 2017 Scoping Plan reduce overall GHG emissions in California and deliver policy signals that will continue to drive investment and certainty in a low carbon economy. The 2017 Scoping Plan builds upon the successful framework established by the Initial Scoping Plan and First Update, while identifying new, technologically feasible, and cost-effective strategies to ensure that California meets its GHG reduction targets in a way that promotes and rewards innovation, continues to foster economic growth, and delivers improvements to the environment and public health, including in disadvantaged communities. The Plan includes policies to require direct GHG reductions at some of the State's largest stationary sources and mobile sources. These policies include the use of lower GHG fuels, efficiency regulations, and the Cap-and Trade Program, which constrains and reduces emissions at covered sources.

As the latest, 2017 Scoping Plan builds upon previous versions, project consistency with applicable strategies of both the 2008 and 2017 Plan are assessed in Table 15. As shown in Table 15, the project is consistent with the applicable strategies and would result in a less than significant impact.

**Table 15: Project Consistency with CARB Scoping Plan Policies and Measures[1]**

| 2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions | Project Compliance with Measure |
|---|---|
| California Light-Duty Vehicle Greenhouse Gas Standards – Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Energy Efficiency – Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California. | Consistent. The project will be compliant with the current Title 24 standards. |
| Low Carbon Fuel Standard – Develop and adopt the Low Carbon Fuel Standard. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Vehicle Efficiency Measures – Implement light-duty vehicle efficiency measures. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Medium/Heavy-Duty Vehicles – Adopt medium and heavy-duty vehicle efficiency measures. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Green Building Strategy – Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings. | Consistent. The California Green Building Standards Code (proposed Part 11, Title 24) was adopted as part of the California Building Standards Code in the CCR. Part 11 establishes voluntary standards, that are mandatory in the 2019 edition of the Code, on planning and design for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The project will be subject to these mandatory standards. |

| 2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions | Project Compliance with Measure |
|---|---|
| High Global Warming Potential Gases – Adopt measures to reduce high global warming potential gases. | Consistent. CARB identified five measures that reduce HFC emissions from vehicular and commercial refrigeration systems; vehicles that access the project that are required to comply with the measures will comply with the strategy. |
| Recycling and Waste – Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste. | Consistent. The state is currently developing a regulation to reduce methane emissions from municipal solid waste landfills. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341. |
| Water – Continue efficiency programs and use cleaner energy sources to move and treat water. | Consistent. The project will comply with all applicable City ordinances and CAL Green requirements. |
| **2017 Scoping Plan Recommended Actions to Reduce Greenhouse Gas Emissions** | **Project Compliance with Recommended Action** |
| Implement Mobile Source Strategy: Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Car regulations. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Implement Mobile Source Strategy: At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025 and at least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Implement Mobile Source Strategy: Innovative Clean Transit: Transition to a suite of to-be-determined innovative clean transit options. Assumed 20 percent of new urban buses purchased beginning in 2018 will be zero emission buses with the penetration of zero-emission technology ramped up to 100 percent of new sales in 2030. Also, new natural gas buses, starting in 2018, and diesel buses, starting in 2020, meet the optional heavy-duty low-NOX standard. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Implement Mobile Source Strategy: Last Mile Delivery: New regulation that would result in the use of low NOX or cleaner engines and the deployment of increasing numbers of zero-emission trucks primarily for class 3-7 last mile delivery trucks in California. This measure assumes ZEVs comprise 2.5 percent of new Class 3–7 truck sales in local fleets starting in 2020, increasing to 10 percent in 2025 and remaining flat through 2030. | Consistent. These are CARB enforced standards; vehicles that access the project that are required to comply with the standards will comply with the strategy. |
| Implement SB 350 by 2030: Establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas end uses by 2030. | Consistent. The project will be compliant with the current Title 24 standards. |

| 2008 Scoping Plan Measures to Reduce Greenhouse Gas Emissions | Project Compliance with Measure |
|---|---|
| By 2019, develop regulations and programs to support organic waste landfill reduction goals in the SLCP and SB 1383. | Consistent. The project will be required to comply with City programs, such as any City recycling and waste reduction programs, which comply, with the 75 percent reduction required by 2020 per AB 341. |
| Notes:<br>[1] Source: CARB Scoping Plan (2008 and 2017) | |

Therefore, the project will not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Impacts are considered to be less than significant.

# *8.0 Health Risk Assessment*

## 8.1 Diesel Emissions Health Risk Assessment

The on-going operation of the proposed project would generate toxic air contaminant (TAC) emissions from diesel truck emissions. The California Air Pollution Control Officers Association (CAPCOA) has developed TAC health risk assessment guidelines to provide consistent, statewide procedures for preparing the health risk assessments required under the Air Toxics "Hot Spots" Act. The title of these guidelines is CAPCOA Air Toxics "Hot Spots" Program Revised 1992 Risk Assessment Guidelines. The District recommends that lead agencies conduct TAC risk assessments in accordance with the CAPCOA Risk Assessment Guidelines, as supplemented by the District's supplemental guidelines. According CAPCOA guidelines, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

The SDAPCD TAC threshold of 10 in one million is defined as the "maximum incremental cancer risk" and is used as the threshold for said project. The nearest sensitive receptors to the project site are the existing mobile home park located approximately 50 feet to the west and the existing single-family detached residential dwelling units located approximately 0.18 miles (~290 meters) southwest and 0.19 miles (~305 meters) southeast of the project site.

As stated previously, the proposed project is the development of the site with a 68,900 square foot industrial building including 51,750 square feet of manufacturing/warehouse use and 17,150 square feet of office use and is anticipated to have approximately 602 daily vehicles trips. The evaluation of the project analyzes the potential of three dock doors proposed for loading; however, the associated emissions from those loading docks would not exceed thresholds. Furthermore, truck idling is limited to 5-minutes per Rule 2485[28].

Finally, the most recent Health Risk Assessment for Proposed Land Use Projects prepared by CAPCOA (July 2009) recommends avoiding siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). A summary of the basis for the distance recommendations can be found in the ARB Handbook *Air Quality and Land Use Handbook: A Community Health Perspective*.

The project is an unrefrigerated warehouse spec building and would, therefore, not include TRUs. In addition, at only 51,750 square feet of industrial uses, the project does not propose any activity with 100 trucks or greater per day. Therefore, a quantitative health risk assessment would not be required

[28] https://www.sandiegocounty.gov/content/sdc/apcd/en/compliance-programs/mobile_sources.html#:~:text=Commercial%20Vehicle%20and%20School%20Bus%20Idling&text=are%20prohibited%20from%20idling%20for,%22Cerified%20Clean%20Idle%22%20sticker

for said project as emissions are far below thresholds. Significant TAC impacts from the project-related operational DPM sources are not anticipated and no significant long-term operations-related TAC impacts from the proposed project to nearby sensitive receptors would occur.

# *9.0 Energy Analysis*

Information from the CalEEMod 2020.4.0 Daily and Annual Outputs contained in the air quality and greenhouse gas analyses above was utilized for this analysis. The CalEEMod outputs detail project related construction equipment, transportation energy demands, and facility energy demands.

### *Construction Energy Demand*

*Construction Equipment Electricity Usage Estimates*

Electrical service will be provided by the San Diego Gas & Electric (SDG&E). Based on the 2017 National Construction Estimator, Richard Pray (2017)[29], the typical power cost per 1,000 square feet of building construction per month is estimated to be $2.32. The project proposes to develop the approximately 5-acre project site with one approximately 68,900 square foot unrefrigerated warehouse spec building. Based on Table 16, the total power cost of the on-site electricity usage during the construction of the proposed project is estimated to be approximately $1,918.18. As shown in Table 16, the total electricity usage from Project construction related activities is estimated to be approximately 34,876 kWh.[30]

**Table 16: Project Construction Power Cost and Electricity Usage**

| Power Cost (per 1,000 square foot of building per month of construction) | Total Building Size (1,000 Square Foot)[1] | Construction Duration (months) | Total Project Construction Power Cost |
|---|---|---|---|
| $2.32 | 68.900 | 12 | $1,918.18 |

| Cost per kWh | Total Project Construction Electricity Usage (kWh) |
|---|---|
| $0.06 | 34,876 |

*Assumes the project will be under the A-1 Small Commercial & Multi-Family Service rate under LADWP. https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-financesandreports/a-fr-electricrates/a-fr-er-stcommindrates?_adf.ctrl-state=4uqberzct_4&_afrLoop=958662023680086

*Construction Equipment Fuel Estimates*

Using the CalEEMod data input, the project's construction phase would consume electricity and fossil fuels as a single energy demand, that is, once construction is completed their use would cease. CARB's 2017 Emissions Factors Tables show that on average aggregate fuel consumption (gasoline and diesel

[29] Pray, Richard. 2017 National Construction Estimator. Carlsbad : Craftsman Book Company, 2017.
[30] LADWP's Small Commercial & Multi-Family Service (A-1) is approximately $0.06 per kWh of electricity Southern California Edison (SCE). Rates & Pricing Choices: General Service/Industrial Rates. https://library.sce.com/content/dam/sce-doclib/public/regulatory/historical/electric/2020/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1_2020.pdf

fuel) would be approximately 18.5 hp-hr-gal.[31] As presented in Table 17 below, project construction activities would consume an estimated 31,435 gallons of diesel fuel.

**Table 17: Construction Equipment Fuel Consumption Estimates**

| Phase | Number of Days | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor | HP hrs/day | Total Fuel Consumption (gal diesel fuel)[1] |
|---|---|---|---|---|---|---|---|---|
| Grading | 8 | Excavators | 1 | 8 | 158 | 0.38 | 480 | 208 |
| | 8 | Graders | 1 | 8 | 187 | 0.41 | 613 | 265 |
| | 8 | Rubber Tired Dozers | 1 | 8 | 247 | 0.4 | 790 | 342 |
| | 8 | Tractors/Loaders/Backhoes | 3 | 8 | 97 | 0.37 | 861 | 372 |
| Building Construction | 230 | Cranes | 1 | 7 | 231 | 0.29 | 469 | 5,830 |
| | 230 | Forklifts | 3 | 8 | 89 | 0.2 | 427 | 5,311 |
| | 230 | Generator Sets | 1 | 8 | 84 | 0.74 | 497 | 6,182 |
| | 230 | Tractors/Loaders/Backhoes | 3 | 7 | 97 | 0.37 | 754 | 9,370 |
| | 230 | Welders | 1 | 8 | 46 | 0.45 | 166 | 2,059 |
| Paving | 18 | Cement and Mortar Mixers | 4 | 6 | 9 | 0.56 | 121 | 118 |
| | 18 | Pavers | 1 | 8 | 130 | 0.42 | 437 | 425 |
| | 18 | Paving Equipment | 1 | 6 | 132 | 0.36 | 285 | 277 |
| | 18 | Rollers | 1 | 6 | 80 | 0.38 | 182 | 177 |
| | 18 | Tractors/Loaders/Backhoes | 1 | 8 | 97 | 0.37 | 287 | 279 |
| Architectural Coating | 18 | Air Compressors | 1 | 6 | 78 | 0.48 | 225 | 219 |
| **CONSTRUCTION FUEL DEMAND (gallons of diesel fuel)** | | | | | | | | **31,435** |

Notes:
[1]Using Carl Moyer Guidelines Table D-21 Fuel consumption rate factors (bhp-hr/gal) for engines less than 750 hp.
(Source: https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf)

*Construction Worker Fuel Estimates*

It is assumed that all construction worker trips are from light duty autos (LDA) along area roadways. With respect to estimated VMT, the construction worker trips would generate an estimated 326,516 VMT. Vehicle fuel efficiencies for construction workers were estimated in the air quality and greenhouse gas analysis using information generated using CARB's EMFAC model (see Appendix C for details). Table 18 shows that an estimated 10,550 gallons of fuel would be consumed for construction worker trips.

[31] Aggregate fuel consumption rate for all equipment was estimated at 18.5 hp-hr/day (from CARB's 2017 Emissions Factors Tables and fuel consumption rate factors as shown in Table D-21 of the Moyer Guidelines: (https://www.arb.ca.gov/msprog/moyer/guidelines/2017gl/2017_gl_appendix_d.pdf).

**Table 18: Construction Worker Fuel Consumption Estimates**

| Phase | Number of Days | Worker Trips/Day | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 8 | 15 | 14.7 | 1,764 | 30.95 | 57 |
| Building Construction | 230 | 93 | 14.7 | 314,433 | 30.95 | 10,159 |
| Paving | 18 | 20 | 14.7 | 5,292 | 30.95 | 171 |
| Architectural Coating | 18 | 19 | 14.7 | 5,027 | 30.95 | 162 |
| **Total Construction Worker Fuel Consumption** | | | | | | **10,550** |

Notes:
[1]Assumptions for the worker trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

*Construction Vendor/Hauling Fuel Estimates*

Tables 19 and 20 show the estimated fuel consumption for vendor and hauling during building construction and architectural coating. With respect to estimated VMT, the vendor and hauling trips would generate an estimated 93,719 VMT. For the architectural coatings it is assumed that the contractors would be responsible for bringing coatings and equipment with them in their light duty vehicles.[32] Tables 19 and 20 show that an estimated 11,562 gallons of fuel would be consumed for vendor and hauling trips.

**Table 19: Construction Vendor Fuel Consumption Estimates (MHD Trucks)[1]**

| Phase | Number of Days | Vendor Trips/Day | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 8 | 0 | 6.9 | 0 | 9.22 | 0 |
| Building Construction | 230 | 37 | 6.9 | 58,719 | 9.22 | 6,369 |
| Paving | 18 | 0 | 6.9 | 0 | 9.22 | 0 |
| Architectural Coating | 18 | 0 | 6.9 | 0 | 9.22 | 0 |
| **Total Vendor Fuel Consumption** | | | | | | **6,369** |

Notes:
[1] Assumptions for the vendor trip length and vehicle miles traveled are consistent with CalEEMod 2020.4.0 defaults.

[32] Vendors delivering construction material or hauling debris from the site during grading would use medium to heavy duty vehicles with an average fuel consumption of 9.22 mpg for medium heavy-duty trucks and 6.74 mpg for heavy heavy-duty trucks (see Appendix C for details).

**Table 20: Construction Hauling Fuel Consumption Estimates (HHD Trucks)[1]**

| Phase | Number of Days | Hauling Trips/Day | Trip Length (miles) | Vehicle Miles Traveled | Average Vehicle Fuel Economy (mpg) | Estimated Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|
| Grading | 8 | 218.8 | 20 | 35,000 | 6.74 | 5,193 |
| Building Construction | 230 | 0 | 20 | 0 | 6.74 | 0 |
| Paving | 18 | 0 | 20 | 0 | 6.74 | 0 |
| Architectural Coating | 18 | 0 | 20 | 0 | 6.74 | 0 |
| **Total Construction Hauling Fuel Consumption** | | | | | | **5,193** |

Notes:
[1]Assumptions for the hauling trip length and vehicle miles traveled are consistent with CalEEMod 2020.40 defaults.

*Construction Energy Efficiency/Conservation Measures*

Construction equipment used over the approximately eighteen-month construction phase would conform to CARB regulations and California emissions standards and is evidence of related fuel efficiencies. In addition, the CARB Airborne Toxic Control Measure limits idling times of construction vehicles to no more than five minutes, thereby minimizing unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Furthermore, the project has been designed in compliance with California's Energy Efficiency Standards and 2019 CALGreen Standards.

Construction of the proposed residential (assisted living) development would require the typical use of energy resources. There are no unusual project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

***Operational Energy Demand***

Energy consumption in support of or related to project operations would include transportation energy demands (energy consumed by employee and patron vehicles accessing the project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

*Transportation Fuel Consumption*

The largest source of operational energy use would be vehicle operation of customers. The site is located in an urbanized area within the City of Escondido.

Using the VMT Analysis provided in the Transportation Assessment prepared for the proposed project (Linscott Law & Greenspan Engineers, 2021), it is assumed that average vehicle miles traveled was 6.9 miles for all vehicle categories[33]. As the proposed project is a residential project, it was assumed that vehicles would operate 365 days per year. Table 21 shows the worst-case estimated annual fuel consumption for all classes of vehicles from autos to heavy-heavy trucks would be an estimated 57,505 gallons for the operation of the proposed project.[34]

**Table 21: Estimated Vehicle Operations Fuel Consumption**

| Vehicle Type | Vehicle Mix | Number of Vehicles | Average Trip (miles)[1] | Daily VMT | Average Fuel Economy (mpg) | Total Gallons per Day | Total Annual Fuel Consumption (gallons) |
|---|---|---|---|---|---|---|---|
| Light Auto | Automobile | 346 | 6.9 | 2,387 | 31.82 | 75.00 | 27,375 |
| Light Truck | Automobile | 39 | 6.9 | 271 | 27.16 | 9.97 | 3,638 |
| Light Truck | Automobile | 113 | 6.9 | 781 | 25.6 | 30.49 | 11,130 |
| Medium Truck | Automobile | 75 | 6.9 | 521 | 20.81 | 25.02 | 9,131 |
| Light Heavy Truck | 2-Axle Truck | 15 | 6.9 | 105 | 13.81 | 7.62 | 2,783 |
| Light Heavy Truck 10,000 lbs + | 2-Axle Truck | 4 | 6.9 | 27 | 14.18 | 1.89 | 690 |
| Medium Heavy Truck | 3-Axle Truck | 5 | 6.9 | 37 | 9.58 | 3.82 | 1,395 |
| Heavy Heavy Truck | 4-Axle Truck | 4 | 6.9 | 27 | 7.14 | 3.73 | 1,363 |
| Total | | 602 | -- | 4,154 | 18.76 | 157.55 | -- |
| **Total Annual Fuel Consumption** | | | | | | | **57,505** |

Notes:
[1]Based on the size of the site and relative location, trips were assumed to be local rather than regional.

Trip generation and VMT generated by the proposed project are consistent with other similar residential uses of similar scale and configuration as reflected in the Transportation Assessment (Linscott Law & Greenspan Engineers, 2021). That is, the proposed project does not propose uses or operations that would inherently result in excessive and wasteful vehicle trips and VMT, nor associated excess and wasteful vehicle energy consumption. Therefore, project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

*Facility Energy Demands (Electricity and Natural Gas)*

The annual natural gas and electricity demands were provided per the CalEEMod output and are provided in Table 22.

[33] The trip distance of 7.44 miles was calculated by the use of the VMT Analysis provided in the Transportation Assessment Chatsworth Street Assisted Living prepared by Overland Traffic Consultants, Inc. May 2021.

[34] Average fuel economy based on aggregate mileage calculated in EMFAC 2017 for opening year (2023). See Appendix A for EMFAC output.

**Table 22: Project Mitigated Annual Operational Energy Demand Summary[1]**

| Natural Gas Demand | kBTU/year |
|---|---|
| General Office Building | 343,515 |
| Unrefrigerated Warehouse | 85,388 |
| **Total** | 428,903 |

| Electricity Demand | kWh/year |
|---|---|
| General Office Building | 221,921 |
| Unrefrigerated Warehouse | 23,660 |
| Parking Lot | 183,713 |
| **Total** | 429,294 |

Notes:
[1]Taken from the CalEEMod 2020.4.0 annual output.

As shown in Table 22, the estimated electricity demand for the proposed project is approximately 429,294 kWh per year. In 2020, the non-residential sector consumed approximately 11,658 kWh of electricity.[35] In addition, the estimated natural gas consumption for the proposed project is approximately 428,903 kBTU per year. In 2020, the non-residential sector of the County of San Diego consumed approximately 202 million therms of gas.[36] Therefore, the increase in both electricity and natural gas demand from the proposed project is insignificant compared to the County's 2020 demand.

Renewable Energy and Energy Efficiency Plan Consistency

Regarding federal transportation regulations, the project site is located in an already developed area. Access to/from the project site is from existing roads. These roads are already in place so the project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be proposed pursuant to the ISTEA because SCAG is not planning for intermodal facilities in the project area.

Regarding the State's Energy Plan and compliance with Title 24 CCR energy efficiency standards, the applicant is required to comply with the California Green Building Standard Code requirements for energy efficient buildings and appliances as well as utility energy efficiency programs implemented by the SCE and Southern California Gas Company.

Regarding the State's Renewable Energy Portfolio Standards, the project would be required to meet or exceed the energy standards established in the California Green Building Standards Code, Title 24, Part 11 (CALGreen). CalGreen Standards require that new buildings reduce water consumption, employ

[35] California Energy Commission, Electricity Consumption by County. https://ecdms.energy.ca.gov/elecbycounty.aspx

[36] California Energy Commission, Gas Consumption by County. http://ecdms.energy.ca.gov/gasbycounty.aspx

building commissioning to increase building system efficiencies, divert construction waste from landfills, and install low pollutant-emitting finish materials.

# *10.0 References*

The following references were used in the preparing this analysis.

**Association of Environmental Professionals (AEP)**
2016 Final White Paper – Beyond 2020 and Newhall. October 18.

**California Air Pollution Control Officers Association**
2009 Health Risk Assessments for Proposed Land Use Projects

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

2008 Resolution 08-43

2008 Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act

2008 ARB Recommended Interim Risk Management Policy for Inhalation-Based Residential Cancer Risk – Frequently Asked Questions

2008 Climate Change Scoping Plan, a framework for change.

2011 Supplement to the AB 32 Scoping Plan Functional Equivalent Document

2013 Revised Emission Factors for Gasoline Marketing Operations at California Gasoline Dispensing Facilities

2014 First Update to the Climate Change Scoping Plan, Building on the Framework Pursuant to AB32, the California Global Warming Solutions Act of 2006. May.

2017 The 2017 Climate Change Scoping Plan, The Strategy for Achieving California's 2030 Greenhouse Gas Target, Draft. October 27, 2017.

**Governor's Office of Planning and Research**
2008 CEQA and Climate: Addressing Climate Change Through California Environmental Quality Act (CEQA) Review

2009 CEQA Guideline Sections to be Added or Amended

**Intergovernmental Panel on Climate Change (IPCC)**
2014 Fifth Assessment Report (AR5), Climate Change 2014: Synthesis Report.

**Office of Environmental Health Hazard Assessment**

2015 Air Toxics Hot Spots Program Risk Assessment Guidelines

**South Coast Air Quality Management District (SCAQMD)**

20008 Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold. October 2008.

2009 Greenhouse Gas CEQA Significance Threshold Stakeholder Working Group 14. November 19, 2009.

2019 South Coast AQMD Air Quality Significance Thresholds. April.

**San Diego County**

2007 County of San Diego Guidelines for Determining Significance and Report Format and Content Requirements: Air Quality. March 19.

2018 County of San Diego Guidelines for Determining Significance Climate change. January 2018.

**San Diego Association of Governments (SANDAG)**

2015 SANDAG Data Surfer. http://datasurfer.sandag.org/

2016 2016 Regional Transportation Improvement Program

2021 2021 Regional Plan. https://sdforward.com/mobility-planning/2021-regional-plan.

**San Diego Air Pollution Control District**

2017 Annual Air Quality Monitoring Network Plan 2016. June 30.

2020 ”Attainment Status” https://www.sandiegocounty.gov/content/sdc/apcd/en/air-quality-planning/attainment-status.html

**Linscott, Law & Greenspan, Engineers**

2022 Transportation Assessment – Meyers Avenue Industrial Project.

# Appendix A:

CalEEMod Daily Emission Output

06232010 Meyers Avenue Industrial Project - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 06232010 Meyers Avenue Industrial Project

**San Diego County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 17.15 | 1000sqft | 0.15 | 17,150.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 51.75 | 1000sqft | 1.19 | 51,750.00 | 0 |
| Other Non-Asphalt Surfaces | 2.06 | Acre | 2.06 | 89,733.60 | 0 |
| Parking Lot | 169.00 | Space | 1.52 | 67,600.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 40 |
| **Climate Zone** | 13 | | | **Operational Year** | 2023 |
| **Utility Company** | San Diego Gas & Electric | | | | |
| **CO2 Intensity (lb/MWhr)** | 539.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - 4.92 ac w/ a 68.9 TSF building with 51.75 TSF industrial & 17.15 TSF office (includes 10.8 TSF of mezzanine office use), 169 space parking lot, & rmdnr harscape/landscaping (~2.06 ac).

Construction Phase - Project operational by December 2023 w/ construction starting November/December 2022. Assumed early November 2022 start and November 2023 end.

Off-road Equipment - CalEEMod default construction timing for building construction phase reduced by ~15%; therefore, ~15% more equipment was added to the building construction phase.

Trips and VMT -

Grading - ~14,000 CY of export anticipated. 4.1 acres of graded area.

Architectural Coating - Assumed compliance with SDAPCD Rule 67.0.1

06232010 Meyers Avenue Industrial Project - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Trips - Per proposed project trip gen provided by Linscott, Law & Greenspan Engineers, of 20 trips/TSF/day for office uses & 5 trips/TSF/day for industrial uses.

Area Coating - Assumed compliance with SDAPCD Rule 67.0.1

Sequestration - Per landscape plan

Construction Off-road Equipment Mitigation - Assumed compliance with SDAPCD Rules 52 and 54, watering 2x per day & 15 mph on unpaved roads.

Mobile Land Use Mitigation - Site is ~0.25 miles west of NCTD Rte 305 Mission Rd/Barham Ln & ~2.54 miles NW downtown portion of Escondido.

Mobile Commute Mitigation -

Area Mitigation - Assumed compliance with SDAPCD Rule 67.0.1

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 100.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 250 | 50 |
| tblAreaCoating | Area_EF_Parking | 250 | 100 |
| tblAreaCoating | Area_EF_Residential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Residential_Interior | 250 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblGrading | AcresOfGrading | 8.00 | 4.10 |
| tblGrading | MaterialExported | 0.00 | 14,000.00 |
| tblLandUse | LotAcreage | 0.39 | 0.15 |
| tblSequestration | NumberOfNewTrees | 0.00 | 52.00 |
| tblVehicleTrips | ST_TR | 2.21 | 20.00 |
| tblVehicleTrips | ST_TR | 1.74 | 5.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 0.70 | 20.00 |
| tblVehicleTrips | SU_TR | 1.74 | 5.00 |
| tblVehicleTrips | WD_TR | 9.74 | 20.00 |
| tblVehicleTrips | WD_TR | 1.74 | 5.00 |

## 2.0 Emissions Summary

06232010 Meyers Avenue Industrial Project - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 2.9728 | 56.4111 | 24.2976 | 0.1680 | 10.7606 | 1.2838 | 12.0444 | 4.4875 | 1.1936 | 5.6812 | 0.0000 | 18,098.1148 | 18,098.1148 | 1.6589 | 2.4035 | 18,855.8276 |
| 2023 | 20.4162 | 16.1289 | 19.0535 | 0.0413 | 1.0146 | 0.7135 | 1.7281 | 0.2748 | 0.6715 | 0.9462 | 0.0000 | 4,063.9374 | 4,063.9374 | 0.6511 | 0.1354 | 4,120.5739 |
| **Maximum** | **20.4162** | **56.4111** | **24.2976** | **0.1680** | **10.7606** | **1.2838** | **12.0444** | **4.4875** | **1.1936** | **5.6812** | **0.0000** | **18,098.1148** | **18,098.1148** | **1.6589** | **2.4035** | **18,855.8276** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 2.9728 | 56.4111 | 24.2976 | 0.1680 | 7.0143 | 1.2838 | 8.2981 | 2.6141 | 1.1936 | 3.8078 | 0.0000 | 18,098.1148 | 18,098.1148 | 1.6589 | 2.4035 | 18,855.8276 |
| 2023 | 20.4162 | 16.1289 | 19.0535 | 0.0413 | 1.0146 | 0.7135 | 1.7281 | 0.2748 | 0.6715 | 0.9462 | 0.0000 | 4,063.9374 | 4,063.9374 | 0.6511 | 0.1354 | 4,120.5739 |
| **Maximum** | **20.4162** | **56.4111** | **24.2976** | **0.1680** | **7.0143** | **1.2838** | **8.2981** | **2.6141** | **1.1936** | **3.8078** | **0.0000** | **18,098.1148** | **18,098.1148** | **1.6589** | **2.4035** | **18,855.8276** |

06232010 Meyers Avenue Industrial Project - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 31.82 | 0.00 | 27.20 | 39.34 | 0.00 | 28.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Energy | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| Mobile | 1.7360 | 1.7482 | 15.2135 | 0.0327 | 3.3158 | 0.0249 | 3.3407 | 0.8833 | 0.0233 | 0.9065 | | 3,359.5042 | 3,359.5042 | 0.2269 | 0.1430 | 3,407.7977 |
| **Total** | **3.3806** | **1.8636** | **15.3348** | **0.0333** | **3.3158** | **0.0338** | **3.3496** | **0.8833** | **0.0321** | **0.9154** | | **3,497.8007** | **3,497.8007** | **0.2297** | **0.1456** | **3,546.9192** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Energy | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| Mobile | 1.4999 | 1.3399 | 11.5505 | 0.0233 | 2.3402 | 0.0183 | 2.3585 | 0.6234 | 0.0171 | 0.6405 | | 2,396.4214 | 2,396.4214 | 0.1804 | 0.1110 | 2,434.0158 |
| **Total** | **3.1446** | **1.4553** | **11.6717** | **0.0240** | **2.3402** | **0.0272** | **2.3673** | **0.6234** | **0.0259** | **0.6493** | | **2,534.7179** | **2,534.7179** | **0.1832** | **0.1136** | **2,573.1372** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **6.98** | **21.91** | **23.89** | **28.07** | **29.42** | **19.60** | **29.33** | **29.42** | **19.25** | **29.07** | **0.00** | **27.53** | **27.53** | **20.22** | **21.99** | **27.45** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 11/1/2022 | 11/10/2022 | 5 | 8 | |
| 2 | Building Construction | Building Construction | 11/11/2022 | 9/28/2023 | 5 | 230 | |
| 3 | Paving | Paving | 9/29/2023 | 10/24/2023 | 5 | 18 | |
| 4 | Architectural Coating | Architectural Coating | 10/25/2023 | 11/17/2023 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4.1**

**Acres of Paving: 3.58**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 103,350; Non-Residential Outdoor: 34,450; Striped Parking Area: 9,440 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 6 | 15.00 | 0.00 | 1,750.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 93.00 | 37.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 19.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.8115 | 0.0000 | 6.8115 | 3.4062 | 0.0000 | 3.4062 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9486 | 20.8551 | 15.2727 | 0.0297 | | 0.9409 | 0.9409 | | 0.8656 | 0.8656 | | 2,872.0464 | 2,872.0464 | 0.9289 | | 2,895.2684 |
| **Total** | **1.9486** | **20.8551** | **15.2727** | **0.0297** | **6.8115** | **0.9409** | **7.7524** | **3.4062** | **0.8656** | **4.2717** | | **2,872.0464** | **2,872.0464** | **0.9289** | | **2,895.2684** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.9803 | 35.5274 | 8.6359 | 0.1373 | 3.8259 | 0.3422 | 4.1681 | 1.0487 | 0.3274 | 1.3761 | | 15,111.6777 | 15,111.6777 | 0.7268 | 2.4005 | 15,845.2076 |
| 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 |
| Worker | 0.0438 | 0.0285 | 0.3889 | 1.1200e-003 | 0.1232 | 7.0000e-004 | 0.1239 | 0.0327 | 6.4000e-004 | 0.0333 | | 114.3907 | 114.3907 | 3.2800e-003 | 2.9500e-003 | 115.3516 |
| **Total** | **1.0241** | **35.5559** | **9.0249** | **0.1384** | **3.9491** | **0.3429** | **4.2920** | **1.0814** | **0.3281** | **1.4094** | | **15,226.0684** | **15,226.0684** | **0.7300** | **2.4035** | **15,960.5593** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 3.0652 | 0.0000 | 3.0652 | 1.5328 | 0.0000 | 1.5328 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9486 | 20.8551 | 15.2727 | 0.0297 | | 0.9409 | 0.9409 | | 0.8656 | 0.8656 | 0.0000 | 2,872.0464 | 2,872.0464 | 0.9289 | | 2,895.2684 |
| **Total** | **1.9486** | **20.8551** | **15.2727** | **0.0297** | **3.0652** | **0.9409** | **4.0060** | **1.5328** | **0.8656** | **2.3984** | **0.0000** | **2,872.0464** | **2,872.0464** | **0.9289** | | **2,895.2684** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.9803 | 35.5274 | 8.6359 | 0.1373 | 3.8259 | 0.3422 | 4.1681 | 1.0487 | 0.3274 | 1.3761 | | 15,111.6777 | 15,111.6777 | 0.7268 | 2.4005 | 15,845.2076 |
| 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 |
| Worker | 0.0438 | 0.0285 | 0.3889 | 1.1200e-003 | 0.1232 | 7.0000e-004 | 0.1239 | 0.0327 | 6.4000e-004 | 0.0333 | | 114.3907 | 114.3907 | 3.2800e-003 | 2.9500e-003 | 115.3516 |
| **Total** | **1.0241** | **35.5559** | **9.0249** | **0.1384** | **3.9491** | **0.3429** | **4.2920** | **1.0814** | **0.3281** | **1.4094** | | **15,226.0684** | **15,226.0684** | **0.7300** | **2.4035** | **15,960.5593** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.7062 | 15.6156 | 16.3634 | 0.0269 | | 0.8090 | 0.8090 | | 0.7612 | 0.7612 | | 2,554.3336 | 2,554.3336 | 0.6120 | | 2,569.6322 |
| **Total** | **1.7062** | **15.6156** | **16.3634** | **0.0269** | | **0.8090** | **0.8090** | | **0.7612** | **0.7612** | | **2,554.3336** | **2,554.3336** | **0.6120** | | **2,569.6322** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0824 | 1.9677 | 0.6583 | 7.8900e-003 | 0.2506 | 0.0214 | 0.2720 | 0.0721 | 0.0205 | 0.0926 | | 850.3548 | 850.3548 | 0.0259 | 0.1234 | 887.7832 |
| Worker | 0.2715 | 0.1768 | 2.4114 | 6.9700e-003 | 0.7640 | 4.3300e-003 | 0.7683 | 0.2026 | 3.9800e-003 | 0.2066 | | 709.2223 | 709.2223 | 0.0204 | 0.0183 | 715.1800 |
| **Total** | **0.3540** | **2.1444** | **3.0697** | **0.0149** | **1.0146** | **0.0257** | **1.0403** | **0.2748** | **0.0244** | **0.2992** | | **1,559.5771** | **1,559.5771** | **0.0462** | **0.1417** | **1,602.9632** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.7062 | 15.6156 | 16.3634 | 0.0269 | | 0.8090 | 0.8090 | | 0.7612 | 0.7612 | 0.0000 | 2,554.3336 | 2,554.3336 | 0.6120 | | 2,569.6322 |
| **Total** | **1.7062** | **15.6156** | **16.3634** | **0.0269** | | **0.8090** | **0.8090** | | **0.7612** | **0.7612** | **0.0000** | **2,554.3336** | **2,554.3336** | **0.6120** | | **2,569.6322** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0824 | 1.9677 | 0.6583 | 7.8900e-003 | 0.2506 | 0.0214 | 0.2720 | 0.0721 | 0.0205 | 0.0926 | | 850.3548 | 850.3548 | 0.0259 | 0.1234 | 887.7832 |
| Worker | 0.2715 | 0.1768 | 2.4114 | 6.9700e-003 | 0.7640 | 4.3300e-003 | 0.7683 | 0.2026 | 3.9800e-003 | 0.2066 | | 709.2223 | 709.2223 | 0.0204 | 0.0183 | 715.1800 |
| **Total** | **0.3540** | **2.1444** | **3.0697** | **0.0149** | **1.0146** | **0.0257** | **1.0403** | **0.2748** | **0.0244** | **0.2992** | | **1,559.5771** | **1,559.5771** | **0.0462** | **0.1417** | **1,602.9632** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0442 | 1.5861 | 0.5716 | 7.5800e-003 | 0.2506 | 9.6600e-003 | 0.2603 | 0.0721 | 9.2400e-003 | 0.0814 | | 817.8737 | 817.8737 | 0.0248 | 0.1184 | 853.7831 |
| Worker | 0.2543 | 0.1579 | 2.2379 | 6.7500e-003 | 0.7640 | 4.1100e-003 | 0.7681 | 0.2026 | 3.7800e-003 | 0.2064 | | 690.8538 | 690.8538 | 0.0185 | 0.0170 | 696.3847 |
| **Total** | **0.2985** | **1.7440** | **2.8095** | **0.0143** | **1.0146** | **0.0138** | **1.0283** | **0.2748** | **0.0130** | **0.2878** | | **1,508.7275** | **1,508.7275** | **0.0433** | **0.1354** | **1,550.1678** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | 0.0000 | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | **0.0000** | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0442 | 1.5861 | 0.5716 | 7.5800e-003 | 0.2506 | 9.6600e-003 | 0.2603 | 0.0721 | 9.2400e-003 | 0.0814 | | 817.8737 | 817.8737 | 0.0248 | 0.1184 | 853.7831 |
| Worker | 0.2543 | 0.1579 | 2.2379 | 6.7500e-003 | 0.7640 | 4.1100e-003 | 0.7681 | 0.2026 | 3.7800e-003 | 0.2064 | | 690.8538 | 690.8538 | 0.0185 | 0.0170 | 696.3847 |
| **Total** | **0.2985** | **1.7440** | **2.8095** | **0.0143** | **1.0146** | **0.0138** | **1.0283** | **0.2748** | **0.0130** | **0.2878** | | **1,508.7275** | **1,508.7275** | **0.0433** | **0.1354** | **1,550.1678** |

06232010 Meyers Avenue Industrial Project - San Diego County, Summer

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9181 | 8.7903 | 12.1905 | 0.0189 | | 0.4357 | 0.4357 | | 0.4025 | 0.4025 | | 1,805.4304 | 1,805.4304 | 0.5673 | | 1,819.6122 |
| Paving | 0.2212 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1393** | **8.7903** | **12.1905** | **0.0189** | | **0.4357** | **0.4357** | | **0.4025** | **0.4025** | | **1,805.4304** | **1,805.4304** | **0.5673** | | **1,819.6122** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0547 | 0.0340 | 0.4813 | 1.4500e-003 | 0.1643 | 8.8000e-004 | 0.1652 | 0.0436 | 8.1000e-004 | 0.0444 | | 148.5707 | 148.5707 | 3.9800e-003 | 3.6600e-003 | 149.7602 |
| **Total** | **0.0547** | **0.0340** | **0.4813** | **1.4500e-003** | **0.1643** | **8.8000e-004** | **0.1652** | **0.0436** | **8.1000e-004** | **0.0444** | | **148.5707** | **148.5707** | **3.9800e-003** | **3.6600e-003** | **149.7602** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9181 | 8.7903 | 12.1905 | 0.0189 | | 0.4357 | 0.4357 | | 0.4025 | 0.4025 | 0.0000 | 1,805.4304 | 1,805.4304 | 0.5673 | | 1,819.6122 |
| Paving | 0.2212 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1393** | **8.7903** | **12.1905** | **0.0189** | | **0.4357** | **0.4357** | | **0.4025** | **0.4025** | **0.0000** | **1,805.4304** | **1,805.4304** | **0.5673** | | **1,819.6122** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0547 | 0.0340 | 0.4813 | 1.4500e-003 | 0.1643 | 8.8000e-004 | 0.1652 | 0.0436 | 8.1000e-004 | 0.0444 | | 148.5707 | 148.5707 | 3.9800e-003 | 3.6600e-003 | 149.7602 |
| **Total** | **0.0547** | **0.0340** | **0.4813** | **1.4500e-003** | **0.1643** | **8.8000e-004** | **0.1652** | **0.0436** | **8.1000e-004** | **0.0444** | | **148.5707** | **148.5707** | **3.9800e-003** | **3.6600e-003** | **149.7602** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 20.1726 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e-003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| **Total** | **20.3642** | **1.3030** | **1.8111** | **2.9700e-003** | | **0.0708** | **0.0708** | | **0.0708** | **0.0708** | | **281.4481** | **281.4481** | **0.0168** | | **281.8690** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0520 | 0.0323 | 0.4572 | 1.3800e-003 | 0.1561 | 8.4000e-004 | 0.1569 | 0.0414 | 7.7000e-004 | 0.0422 | | 141.1422 | 141.1422 | 3.7800e-003 | 3.4700e-003 | 142.2721 |
| **Total** | **0.0520** | **0.0323** | **0.4572** | **1.3800e-003** | **0.1561** | **8.4000e-004** | **0.1569** | **0.0414** | **7.7000e-004** | **0.0422** | | **141.1422** | **141.1422** | **3.7800e-003** | **3.4700e-003** | **142.2721** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Architectural Coating - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 20.1726 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e-003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| **Total** | **20.3642** | **1.3030** | **1.8111** | **2.9700e-003** | | **0.0708** | **0.0708** | | **0.0708** | **0.0708** | **0.0000** | **281.4481** | **281.4481** | **0.0168** | | **281.8690** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0520 | 0.0323 | 0.4572 | 1.3800e-003 | 0.1561 | 8.4000e-004 | 0.1569 | 0.0414 | 7.7000e-004 | 0.0422 | | 141.1422 | 141.1422 | 3.7800e-003 | 3.4700e-003 | 142.2721 |
| **Total** | **0.0520** | **0.0323** | **0.4572** | **1.3800e-003** | **0.1561** | **8.4000e-004** | **0.1569** | **0.0414** | **7.7000e-004** | **0.0422** | | **141.1422** | **141.1422** | **3.7800e-003** | **3.4700e-003** | **142.2721** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.4999 | 1.3399 | 11.5505 | 0.0233 | 2.3402 | 0.0183 | 2.3585 | 0.6234 | 0.0171 | 0.6405 | | 2,396.4214 | 2,396.4214 | 0.1804 | 0.1110 | 2,434.0158 |
| Unmitigated | 1.7360 | 1.7482 | 15.2135 | 0.0327 | 3.3158 | 0.0249 | 3.3407 | 0.8833 | 0.0233 | 0.9065 | | 3,359.5042 | 3,359.5042 | 0.2269 | 0.1430 | 3,407.7977 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 343.00 | 343.00 | 343.00 | 819,685 | 578,499 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 258.75 | 258.75 | 258.75 | 755,424 | 533,146 |
| Total | 601.75 | 601.75 | 601.75 | 1,575,109 | 1,111,645 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Non-Asphalt Surfaces | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Other Non-Asphalt Surfaces | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Parking Lot | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Unrefrigerated Warehouse-No Rail | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |

# 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| NaturalGas Unmitigated | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 941.136 | 0.0102 | 0.0923 | 0.0775 | 5.5000e-004 | | 7.0100e-003 | 7.0100e-003 | | 7.0100e-003 | 7.0100e-003 | | 110.7218 | 110.7218 | 2.1200e-003 | 2.0300e-003 | 111.3798 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 233.938 | 2.5200e-003 | 0.0229 | 0.0193 | 1.4000e-004 | | 1.7400e-003 | 1.7400e-003 | | 1.7400e-003 | 1.7400e-003 | | 27.5222 | 27.5222 | 5.3000e-004 | 5.0000e-004 | 27.6857 |
| **Total** | | **0.0127** | **0.1152** | **0.0968** | **6.9000e-004** | | **8.7500e-003** | **8.7500e-003** | | **8.7500e-003** | **8.7500e-003** | | **138.2440** | **138.2440** | **2.6500e-003** | **2.5300e-003** | **139.0655** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 0.941136 | 0.0102 | 0.0923 | 0.0775 | 5.5000e-004 | | 7.0100e-003 | 7.0100e-003 | | 7.0100e-003 | 7.0100e-003 | | 110.7218 | 110.7218 | 2.1200e-003 | 2.0300e-003 | 111.3798 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 0.233938 | 2.5200e-003 | 0.0229 | 0.0193 | 1.4000e-004 | | 1.7400e-003 | 1.7400e-003 | | 1.7400e-003 | 1.7400e-003 | | 27.5222 | 27.5222 | 5.3000e-004 | 5.0000e-004 | 27.6857 |
| **Total** | | **0.0127** | **0.1152** | **0.0968** | **6.9000e-004** | | **8.7500e-003** | **8.7500e-003** | | **8.7500e-003** | **8.7500e-003** | | **138.2440** | **138.2440** | **2.6500e-003** | **2.5300e-003** | **139.0655** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Unmitigated | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0995 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.2700e-003 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| **Total** | **1.6319** | **2.2000e-004** | **0.0245** | **0.0000** | | **9.0000e-005** | **9.0000e-005** | | **9.0000e-005** | **9.0000e-005** | | **0.0525** | **0.0525** | **1.4000e-004** | | **0.0560** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0995 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.2700e-003 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| **Total** | **1.6319** | **2.2000e-004** | **0.0245** | **0.0000** | | **9.0000e-005** | **9.0000e-005** | | **9.0000e-005** | **9.0000e-005** | | **0.0525** | **0.0525** | **1.4000e-004** | | **0.0560** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

06232010 Meyers Avenue Industrial Project - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 06232010 Meyers Avenue Industrial Project

**San Diego County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 17.15 | 1000sqft | 0.15 | 17,150.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 51.75 | 1000sqft | 1.19 | 51,750.00 | 0 |
| Other Non-Asphalt Surfaces | 2.06 | Acre | 2.06 | 89,733.60 | 0 |
| Parking Lot | 169.00 | Space | 1.52 | 67,600.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 40 |
| **Climate Zone** | 13 | | | **Operational Year** | 2023 |
| **Utility Company** | San Diego Gas & Electric | | | | |
| **CO2 Intensity (lb/MWhr)** | 539.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - 4.92 ac w/ a 68.9 TSF building with 51.75 TSF industrial & 17.15 TSF office (includes 10.8 TSF of mezzanine office use), 169 space parking lot, & rmdnr harscape/landscaping (~2.06 ac).

Construction Phase - Project operational by December 2023 w/ construction starting November/December 2022. Assumed early November 2022 start and November 2023 end.

Off-road Equipment - CalEEMod default construction timing for building construction phase reduced by ~15%; therefore, ~15% more equipment was added to the building construction phase.

Trips and VMT -

Grading - ~14,000 CY of export anticipated. 4.1 acres of graded area.

Architectural Coating - Assumed compliance with SDAPCD Rule 67.0.1

06232010 Meyers Avenue Industrial Project - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Trips - Per proposed project trip gen provided by Linscott, Law & Greenspan Engineers, of 20 trips/TSF/day for office uses & 5 trips/TSF/day for industrial uses.

Area Coating - Assumed compliance with SDAPCD Rule 67.0.1

Sequestration - Per landscape plan

Construction Off-road Equipment Mitigation - Assumed compliance with SDAPCD Rules 52 and 54, watering 2x per day & 15 mph on unpaved roads.

Mobile Land Use Mitigation - Site is ~0.25 miles west of NCTD Rte 305 Mission Rd/Barham Ln & ~2.54 miles NW downtown portion of Escondido.

Mobile Commute Mitigation -

Area Mitigation - Assumed compliance with SDAPCD Rule 67.0.1

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 100.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 250 | 50 |
| tblAreaCoating | Area_EF_Parking | 250 | 100 |
| tblAreaCoating | Area_EF_Residential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Residential_Interior | 250 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblGrading | AcresOfGrading | 8.00 | 4.10 |
| tblGrading | MaterialExported | 0.00 | 14,000.00 |
| tblLandUse | LotAcreage | 0.39 | 0.15 |
| tblSequestration | NumberOfNewTrees | 0.00 | 52.00 |
| tblVehicleTrips | ST_TR | 2.21 | 20.00 |
| tblVehicleTrips | ST_TR | 1.74 | 5.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 0.70 | 20.00 |
| tblVehicleTrips | SU_TR | 1.74 | 5.00 |
| tblVehicleTrips | WD_TR | 9.74 | 20.00 |
| tblVehicleTrips | WD_TR | 1.74 | 5.00 |

## 2.0 Emissions Summary

06232010 Meyers Avenue Industrial Project - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 2.9512 | 57.7485 | 24.4089 | 0.1680 | 10.7606 | 1.2843 | 12.0450 | 4.4875 | 1.1942 | 5.6817 | 0.0000 | 18,098.2089 | 18,098.2089 | 1.6576 | 2.4049 | 18,856.2984 |
| 2023 | 20.4206 | 16.2154 | 18.9594 | 0.0409 | 1.0146 | 0.7136 | 1.7281 | 0.2748 | 0.6715 | 0.9463 | 0.0000 | 4,027.1253 | 4,027.1253 | 0.6522 | 0.1371 | 4,084.2847 |
| **Maximum** | **20.4206** | **57.7485** | **24.4089** | **0.1680** | **10.7606** | **1.2843** | **12.0450** | **4.4875** | **1.1942** | **5.6817** | **0.0000** | **18,098.2089** | **18,098.2089** | **1.6576** | **2.4049** | **18,856.2984** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2022 | 2.9512 | 57.7485 | 24.4089 | 0.1680 | 7.0143 | 1.2843 | 8.2986 | 2.6141 | 1.1942 | 3.8083 | 0.0000 | 18,098.2089 | 18,098.2089 | 1.6576 | 2.4049 | 18,856.2984 |
| 2023 | 20.4206 | 16.2154 | 18.9594 | 0.0409 | 1.0146 | 0.7136 | 1.7281 | 0.2748 | 0.6715 | 0.9463 | 0.0000 | 4,027.1253 | 4,027.1253 | 0.6522 | 0.1371 | 4,084.2847 |
| **Maximum** | **20.4206** | **57.7485** | **24.4089** | **0.1680** | **7.0143** | **1.2843** | **8.2986** | **2.6141** | **1.1942** | **3.8083** | **0.0000** | **18,098.2089** | **18,098.2089** | **1.6576** | **2.4049** | **18,856.2984** |

06232010 Meyers Avenue Industrial Project - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Percent Reduction | 0.00 | 0.00 | 0.00 | 0.00 | 31.82 | 0.00 | 27.20 | 39.34 | 0.00 | 28.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Energy | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| Mobile | 1.6963 | 1.8965 | 15.6191 | 0.0312 | 3.3158 | 0.0249 | 3.3408 | 0.8833 | 0.0233 | 0.9066 | | 3,213.2546 | 3,213.2546 | 0.2409 | 0.1509 | 3,264.2551 |
| **Total** | **3.3409** | **2.0119** | **15.7403** | **0.0319** | **3.3158** | **0.0338** | **3.3496** | **0.8833** | **0.0321** | **0.9154** | | **3,351.5511** | **3,351.5511** | **0.2437** | **0.1535** | **3,403.3766** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Energy | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| Mobile | 1.4535 | 1.4561 | 12.0622 | 0.0223 | 2.3402 | 0.0183 | 2.3585 | 0.6234 | 0.0171 | 0.6405 | | 2,293.6919 | 2,293.6919 | 0.1942 | 0.1175 | 2,333.5641 |
| **Total** | **3.0981** | **1.5715** | **12.1835** | **0.0230** | **2.3402** | **0.0272** | **2.3673** | **0.6234** | **0.0259** | **0.6493** | | **2,431.9884** | **2,431.9884** | **0.1969** | **0.1200** | **2,472.6856** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **7.27** | **21.89** | **22.60** | **27.98** | **29.42** | **19.59** | **29.32** | **29.42** | **19.27** | **29.07** | **0.00** | **27.44** | **27.44** | **19.18** | **21.78** | **27.35** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 11/1/2022 | 11/10/2022 | 5 | 8 | |
| 2 | Building Construction | Building Construction | 11/11/2022 | 9/28/2023 | 5 | 230 | |
| 3 | Paving | Paving | 9/29/2023 | 10/24/2023 | 5 | 18 | |
| 4 | Architectural Coating | Architectural Coating | 10/25/2023 | 11/17/2023 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4.1**

**Acres of Paving: 3.58**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 103,350; Non-Residential Outdoor: 34,450; Striped Parking Area: 9,440 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | | | |
|---|---|---|---|---|---|
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 6 | 15.00 | 0.00 | 1,750.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 93.00 | 37.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 19.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.8115 | 0.0000 | 6.8115 | 3.4062 | 0.0000 | 3.4062 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9486 | 20.8551 | 15.2727 | 0.0297 | | 0.9409 | 0.9409 | | 0.8656 | 0.8656 | | 2,872.0464 | 2,872.0464 | 0.9289 | | 2,895.2684 |
| **Total** | **1.9486** | **20.8551** | **15.2727** | **0.0297** | **6.8115** | **0.9409** | **7.7524** | **3.4062** | **0.8656** | **4.2717** | | **2,872.0464** | **2,872.0464** | **0.9289** | | **2,895.2684** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.9552 | 36.8613 | 8.7675 | 0.1373 | 3.8259 | 0.3428 | 4.1687 | 1.0487 | 0.3280 | 1.3766 | | 15,118.0767 | 15,118.0767 | 0.7253 | 2.4017 | 15,851.9064 |
| 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 |
| Worker | 0.0474 | 0.0321 | 0.3688 | 1.0600e-003 | 0.1232 | 7.0000e-004 | 0.1239 | 0.0327 | 6.4000e-004 | 0.0333 | | 108.0858 | 108.0858 | 3.4900e-003 | 3.1900e-003 | 109.1237 |
| **Total** | **1.0026** | **36.8934** | **9.1362** | **0.1384** | **3.9491** | **0.3435** | **4.2926** | **1.0814** | **0.3286** | **1.4100** | | **15,226.1625** | **15,226.1625** | **0.7287** | **2.4049** | **15,961.0301** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 3.0652 | 0.0000 | 3.0652 | 1.5328 | 0.0000 | 1.5328 | | | 0.0000 | | | 0.0000 |
| Off-Road | 1.9486 | 20.8551 | 15.2727 | 0.0297 | | 0.9409 | 0.9409 | | 0.8656 | 0.8656 | 0.0000 | 2,872.0464 | 2,872.0464 | 0.9289 | | 2,895.2684 |
| **Total** | **1.9486** | **20.8551** | **15.2727** | **0.0297** | **3.0652** | **0.9409** | **4.0060** | **1.5328** | **0.8656** | **2.3984** | **0.0000** | **2,872.0464** | **2,872.0464** | **0.9289** | | **2,895.2684** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.9552 | 36.8613 | 8.7675 | 0.1373 | 3.8259 | 0.3428 | 4.1687 | 1.0487 | 0.3280 | 1.3766 | | 15,118.0767 | 15,118.0767 | 0.7253 | 2.4017 | 15,851.9064 |
| 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 |
| Worker | 0.0474 | 0.0321 | 0.3688 | 1.0600e-003 | 0.1232 | 7.0000e-004 | 0.1239 | 0.0327 | 6.4000e-004 | 0.0333 | | 108.0858 | 108.0858 | 3.4900e-003 | 3.1900e-003 | 109.1237 |
| **Total** | **1.0026** | **36.8934** | **9.1362** | **0.1384** | **3.9491** | **0.3435** | **4.2926** | **1.0814** | **0.3286** | **1.4100** | | **15,226.1625** | **15,226.1625** | **0.7287** | **2.4049** | **15,961.0301** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.7062 | 15.6156 | 16.3634 | 0.0269 | | 0.8090 | 0.8090 | | 0.7612 | 0.7612 | | 2,554.3336 | 2,554.3336 | 0.6120 | | 2,569.6322 |
| **Total** | **1.7062** | **15.6156** | **16.3634** | **0.0269** | | **0.8090** | **0.8090** | | **0.7612** | **0.7612** | | **2,554.3336** | **2,554.3336** | **0.6120** | | **2,569.6322** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0817 | 2.0419 | 0.6786 | 7.9000e-003 | 0.2506 | 0.0215 | 0.2720 | 0.0721 | 0.0205 | 0.0927 | | 850.7913 | 850.7913 | 0.0258 | 0.1236 | 888.2691 |
| Worker | 0.2937 | 0.1988 | 2.2863 | 6.5900e-003 | 0.7640 | 4.3300e-003 | 0.7683 | 0.2026 | 3.9800e-003 | 0.2066 | | 670.1316 | 670.1316 | 0.0216 | 0.0198 | 676.5668 |
| **Total** | **0.3754** | **2.2407** | **2.9649** | **0.0145** | **1.0146** | **0.0258** | **1.0403** | **0.2748** | **0.0245** | **0.2993** | | **1,520.9230** | **1,520.9230** | **0.0474** | **0.1434** | **1,564.8359** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.7062 | 15.6156 | 16.3634 | 0.0269 | | 0.8090 | 0.8090 | | 0.7612 | 0.7612 | 0.0000 | 2,554.3336 | 2,554.3336 | 0.6120 | | 2,569.6322 |
| **Total** | **1.7062** | **15.6156** | **16.3634** | **0.0269** | | **0.8090** | **0.8090** | | **0.7612** | **0.7612** | **0.0000** | **2,554.3336** | **2,554.3336** | **0.6120** | | **2,569.6322** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0817 | 2.0419 | 0.6786 | 7.9000e-003 | 0.2506 | 0.0215 | 0.2720 | 0.0721 | 0.0205 | 0.0927 | | 850.7913 | 850.7913 | 0.0258 | 0.1236 | 888.2691 |
| Worker | 0.2937 | 0.1988 | 2.2863 | 6.5900e-003 | 0.7640 | 4.3300e-003 | 0.7683 | 0.2026 | 3.9800e-003 | 0.2066 | | 670.1316 | 670.1316 | 0.0216 | 0.0198 | 676.5668 |
| **Total** | **0.3754** | **2.2407** | **2.9649** | **0.0145** | **1.0146** | **0.0258** | **1.0403** | **0.2748** | **0.0245** | **0.2993** | | **1,520.9230** | **1,520.9230** | **0.0474** | **0.1434** | **1,564.8359** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0430 | 1.6529 | 0.5889 | 7.5900e-003 | 0.2506 | 9.7100e-003 | 0.2603 | 0.0721 | 9.2900e-003 | 0.0814 | | 819.0365 | 819.0365 | 0.0247 | 0.1187 | 855.0255 |
| Worker | 0.2758 | 0.1776 | 2.1266 | 6.3800e-003 | 0.7640 | 4.1100e-003 | 0.7681 | 0.2026 | 3.7800e-003 | 0.2064 | | 652.8789 | 652.8789 | 0.0197 | 0.0184 | 658.8532 |
| **Total** | **0.3187** | **1.8305** | **2.7154** | **0.0140** | **1.0146** | **0.0138** | **1.0284** | **0.2748** | **0.0131** | **0.2879** | | **1,471.9154** | **1,471.9154** | **0.0444** | **0.1371** | **1,513.8786** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2023

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.5728 | 14.3849 | 16.2440 | 0.0269 | | 0.6997 | 0.6997 | | 0.6584 | 0.6584 | 0.0000 | 2,555.2099 | 2,555.2099 | 0.6079 | | 2,570.4061 |
| **Total** | **1.5728** | **14.3849** | **16.2440** | **0.0269** | | **0.6997** | **0.6997** | | **0.6584** | **0.6584** | **0.0000** | **2,555.2099** | **2,555.2099** | **0.6079** | | **2,570.4061** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0430 | 1.6529 | 0.5889 | 7.5900e-003 | 0.2506 | 9.7100e-003 | 0.2603 | 0.0721 | 9.2900e-003 | 0.0814 | | 819.0365 | 819.0365 | 0.0247 | 0.1187 | 855.0255 |
| Worker | 0.2758 | 0.1776 | 2.1266 | 6.3800e-003 | 0.7640 | 4.1100e-003 | 0.7681 | 0.2026 | 3.7800e-003 | 0.2064 | | 652.8789 | 652.8789 | 0.0197 | 0.0184 | 658.8532 |
| **Total** | **0.3187** | **1.8305** | **2.7154** | **0.0140** | **1.0146** | **0.0138** | **1.0284** | **0.2748** | **0.0131** | **0.2879** | | **1,471.9154** | **1,471.9154** | **0.0444** | **0.1371** | **1,513.8786** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9181 | 8.7903 | 12.1905 | 0.0189 | | 0.4357 | 0.4357 | | 0.4025 | 0.4025 | | 1,805.4304 | 1,805.4304 | 0.5673 | | 1,819.6122 |
| Paving | 0.2212 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1393** | **8.7903** | **12.1905** | **0.0189** | | **0.4357** | **0.4357** | | **0.4025** | **0.4025** | | **1,805.4304** | **1,805.4304** | **0.5673** | | **1,819.6122** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0593 | 0.0382 | 0.4573 | 1.3700e-003 | 0.1643 | 8.8000e-004 | 0.1652 | 0.0436 | 8.1000e-004 | 0.0444 | | 140.4041 | 140.4041 | 4.2400e-003 | 3.9600e-003 | 141.6889 |
| **Total** | **0.0593** | **0.0382** | **0.4573** | **1.3700e-003** | **0.1643** | **8.8000e-004** | **0.1652** | **0.0436** | **8.1000e-004** | **0.0444** | | **140.4041** | **140.4041** | **4.2400e-003** | **3.9600e-003** | **141.6889** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

**Mitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 0.9181 | 8.7903 | 12.1905 | 0.0189 | | 0.4357 | 0.4357 | | 0.4025 | 0.4025 | 0.0000 | 1,805.4304 | 1,805.4304 | 0.5673 | | 1,819.6122 |
| Paving | 0.2212 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1393** | **8.7903** | **12.1905** | **0.0189** | | **0.4357** | **0.4357** | | **0.4025** | **0.4025** | **0.0000** | **1,805.4304** | **1,805.4304** | **0.5673** | | **1,819.6122** |

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0593 | 0.0382 | 0.4573 | 1.3700e-003 | 0.1643 | 8.8000e-004 | 0.1652 | 0.0436 | 8.1000e-004 | 0.0444 | | 140.4041 | 140.4041 | 4.2400e-003 | 3.9600e-003 | 141.6889 |
| **Total** | **0.0593** | **0.0382** | **0.4573** | **1.3700e-003** | **0.1643** | **8.8000e-004** | **0.1652** | **0.0436** | **8.1000e-004** | **0.0444** | | **140.4041** | **140.4041** | **4.2400e-003** | **3.9600e-003** | **141.6889** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 20.1726 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e-003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| **Total** | **20.3642** | **1.3030** | **1.8111** | **2.9700e-003** | | **0.0708** | **0.0708** | | **0.0708** | **0.0708** | | **281.4481** | **281.4481** | **0.0168** | | **281.8690** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0563 | 0.0363 | 0.4345 | 1.3000e-003 | 0.1561 | 8.4000e-004 | 0.1569 | 0.0414 | 7.7000e-004 | 0.0422 | | 133.3839 | 133.3839 | 4.0200e-003 | 3.7600e-003 | 134.6044 |
| **Total** | **0.0563** | **0.0363** | **0.4345** | **1.3000e-003** | **0.1561** | **8.4000e-004** | **0.1569** | **0.0414** | **7.7000e-004** | **0.0422** | | **133.3839** | **133.3839** | **4.0200e-003** | **3.7600e-003** | **134.6044** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Architectural Coating - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 20.1726 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.1917 | 1.3030 | 1.8111 | 2.9700e-003 | | 0.0708 | 0.0708 | | 0.0708 | 0.0708 | 0.0000 | 281.4481 | 281.4481 | 0.0168 | | 281.8690 |
| **Total** | **20.3642** | **1.3030** | **1.8111** | **2.9700e-003** | | **0.0708** | **0.0708** | | **0.0708** | **0.0708** | **0.0000** | **281.4481** | **281.4481** | **0.0168** | | **281.8690** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 |
| Worker | 0.0563 | 0.0363 | 0.4345 | 1.3000e-003 | 0.1561 | 8.4000e-004 | 0.1569 | 0.0414 | 7.7000e-004 | 0.0422 | | 133.3839 | 133.3839 | 4.0200e-003 | 3.7600e-003 | 134.6044 |
| **Total** | **0.0563** | **0.0363** | **0.4345** | **1.3000e-003** | **0.1561** | **8.4000e-004** | **0.1569** | **0.0414** | **7.7000e-004** | **0.0422** | | **133.3839** | **133.3839** | **4.0200e-003** | **3.7600e-003** | **134.6044** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.4535 | 1.4561 | 12.0622 | 0.0223 | 2.3402 | 0.0183 | 2.3585 | 0.6234 | 0.0171 | 0.6405 | | 2,293.6919 | 2,293.6919 | 0.1942 | 0.1175 | 2,333.5641 |
| Unmitigated | 1.6963 | 1.8965 | 15.6191 | 0.0312 | 3.3158 | 0.0249 | 3.3408 | 0.8833 | 0.0233 | 0.9066 | | 3,213.2546 | 3,213.2546 | 0.2409 | 0.1509 | 3,264.2551 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 343.00 | 343.00 | 343.00 | 819,685 | 578,499 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 258.75 | 258.75 | 258.75 | 755,424 | 533,146 |
| Total | 601.75 | 601.75 | 601.75 | 1,575,109 | 1,111,645 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Non-Asphalt Surfaces | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Other Non-Asphalt Surfaces | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Parking Lot | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Unrefrigerated Warehouse-No Rail | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |

# 5.0 Energy Detail

Historical Energy Use: N

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |
| NaturalGas Unmitigated | 0.0127 | 0.1152 | 0.0968 | 6.9000e-004 | | 8.7600e-003 | 8.7600e-003 | | 8.7600e-003 | 8.7600e-003 | | 138.2440 | 138.2440 | 2.6500e-003 | 2.5300e-003 | 139.0655 |

06232010 Meyers Avenue Industrial Project - San Diego County, Winter

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 941.136 | 0.0102 | 0.0923 | 0.0775 | 5.5000e-004 | | 7.0100e-003 | 7.0100e-003 | | 7.0100e-003 | 7.0100e-003 | | 110.7218 | 110.7218 | 2.1200e-003 | 2.0300e-003 | 111.3798 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 233.938 | 2.5200e-003 | 0.0229 | 0.0193 | 1.4000e-004 | | 1.7400e-003 | 1.7400e-003 | | 1.7400e-003 | 1.7400e-003 | | 27.5222 | 27.5222 | 5.3000e-004 | 5.0000e-004 | 27.6857 |
| **Total** | | **0.0127** | **0.1152** | **0.0968** | **6.9000e-004** | | **8.7500e-003** | **8.7500e-003** | | **8.7500e-003** | **8.7500e-003** | | **138.2440** | **138.2440** | **2.6500e-003** | **2.5300e-003** | **139.0655** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| General Office Building | 0.941136 | 0.0102 | 0.0923 | 0.0775 | 5.5000e-004 | | 7.0100e-003 | 7.0100e-003 | | 7.0100e-003 | 7.0100e-003 | | 110.7218 | 110.7218 | 2.1200e-003 | 2.0300e-003 | 111.3798 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 0.233938 | 2.5200e-003 | 0.0229 | 0.0193 | 1.4000e-004 | | 1.7400e-003 | 1.7400e-003 | | 1.7400e-003 | 1.7400e-003 | | 27.5222 | 27.5222 | 5.3000e-004 | 5.0000e-004 | 27.6857 |
| **Total** | | **0.0127** | **0.1152** | **0.0968** | **6.9000e-004** | | **8.7500e-003** | **8.7500e-003** | | **8.7500e-003** | **8.7500e-003** | | **138.2440** | **138.2440** | **2.6500e-003** | **2.5300e-003** | **139.0655** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| Unmitigated | 1.6319 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0995 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.2700e-003 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| **Total** | **1.6319** | **2.2000e-004** | **0.0245** | **0.0000** | | **9.0000e-005** | **9.0000e-005** | | **9.0000e-005** | **9.0000e-005** | | **0.0525** | **0.0525** | **1.4000e-004** | | **0.0560** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.0995 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 1.5302 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 2.2700e-003 | 2.2000e-004 | 0.0245 | 0.0000 | | 9.0000e-005 | 9.0000e-005 | | 9.0000e-005 | 9.0000e-005 | | 0.0525 | 0.0525 | 1.4000e-004 | | 0.0560 |
| **Total** | **1.6319** | **2.2000e-004** | **0.0245** | **0.0000** | | **9.0000e-005** | **9.0000e-005** | | **9.0000e-005** | **9.0000e-005** | | **0.0525** | **0.0525** | **1.4000e-004** | | **0.0560** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

# Appendix B:

CalEEMod Annual Emission Output

06232010 Meyers Avenue Industrial Project - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 06232010 Meyers Avenue Industrial Project

**San Diego County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| General Office Building | 17.15 | 1000sqft | 0.15 | 17,150.00 | 0 |
| Unrefrigerated Warehouse-No Rail | 51.75 | 1000sqft | 1.19 | 51,750.00 | 0 |
| Other Non-Asphalt Surfaces | 2.06 | Acre | 2.06 | 89,733.60 | 0 |
| Parking Lot | 169.00 | Space | 1.52 | 67,600.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.6 | **Precipitation Freq (Days)** | 40 |
| **Climate Zone** | 13 | | | **Operational Year** | 2023 |
| **Utility Company** | San Diego Gas & Electric | | | | |
| **CO2 Intensity (lb/MWhr)** | 539.98 | **CH4 Intensity (lb/MWhr)** | 0.033 | **N2O Intensity (lb/MWhr)** | 0.004 |

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

Project Characteristics -

Land Use - 4.92 ac w/ a 68.9 TSF building with 51.75 TSF industrial & 17.15 TSF office (includes 10.8 TSF of mezzanine office use), 169 space parking lot, & rmdnr harscape/landscaping (~2.06 ac).

Construction Phase - Project operational by December 2023 w/ construction starting November/December 2022. Assumed early November 2022 start and November 2023 end.

Off-road Equipment - CalEEMod default construction timing for building construction phase reduced by ~15%; therefore, ~15% more equipment was added to the building construction phase.

Trips and VMT -

Grading - ~14,000 CY of export anticipated. 4.1 acres of graded area.

Architectural Coating - Assumed compliance with SDAPCD Rule 67.0.1

06232010 Meyers Avenue Industrial Project - San Diego County, Annual

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

Vehicle Trips - Per proposed project trip gen provided by Linscott, Law & Greenspan Engineers, of 20 trips/TSF/day for office uses & 5 trips/TSF/day for industrial uses.

Area Coating - Assumed compliance with SDAPCD Rule 67.0.1

Sequestration - Per landscape plan

Construction Off-road Equipment Mitigation - Assumed compliance with SDAPCD Rules 52 and 54, watering 2x per day & 15 mph on unpaved roads.

Mobile Land Use Mitigation - Site is ~0.25 miles west of NCTD Rte 305 Mission Rd/Barham Ln & ~2.54 miles NW downtown portion of Escondido.

Mobile Commute Mitigation -

Area Mitigation - Assumed compliance with SDAPCD Rule 67.0.1

Waste Mitigation - AB 341 requires each jurisdiction in CA to divert at least 75% of their waste away from landfills by 2020.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Parking | 250.00 | 100.00 |
| tblArchitecturalCoating | EF_Residential_Exterior | 250.00 | 50.00 |
| tblArchitecturalCoating | EF_Residential_Interior | 250.00 | 50.00 |
| tblAreaCoating | Area_EF_Nonresidential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Nonresidential_Interior | 250 | 50 |
| tblAreaCoating | Area_EF_Parking | 250 | 100 |
| tblAreaCoating | Area_EF_Residential_Exterior | 250 | 50 |
| tblAreaCoating | Area_EF_Residential_Interior | 250 | 50 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblGrading | AcresOfGrading | 8.00 | 4.10 |
| tblGrading | MaterialExported | 0.00 | 14,000.00 |
| tblLandUse | LotAcreage | 0.39 | 0.15 |
| tblSequestration | NumberOfNewTrees | 0.00 | 52.00 |
| tblVehicleTrips | ST_TR | 2.21 | 20.00 |
| tblVehicleTrips | ST_TR | 1.74 | 5.00 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | | | |
|---|---|---|---|
| tblVehicleTrips | SU_TR | 0.70 | 20.00 |
| tblVehicleTrips | SU_TR | 1.74 | 5.00 |
| tblVehicleTrips | WD_TR | 9.74 | 20.00 |
| tblVehicleTrips | WD_TR | 1.74 | 5.00 |

## 2.0 Emissions Summary

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | 0.0489 | 0.5521 | 0.4450 | 1.4200e-003 | 0.0606 | 0.0202 | 0.0807 | 0.0227 | 0.0189 | 0.0416 | 0.0000 | 132.3030 | 132.3030 | 0.0168 | 0.0111 | 136.0184 |
| 2023 | 0.3757 | 1.6631 | 1.9720 | 4.1900e-003 | 0.0990 | 0.0738 | 0.1728 | 0.0269 | 0.0694 | 0.0963 | 0.0000 | 374.1182 | 374.1182 | 0.0622 | 0.0121 | 379.2772 |
| **Maximum** | **0.3757** | **1.6631** | **1.9720** | **4.1900e-003** | **0.0990** | **0.0738** | **0.1728** | **0.0269** | **0.0694** | **0.0963** | **0.0000** | **374.1182** | **374.1182** | **0.0622** | **0.0121** | **379.2772** |

### 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 | 0.0489 | 0.5521 | 0.4450 | 1.4200e-003 | 0.0456 | 0.0202 | 0.0657 | 0.0152 | 0.0189 | 0.0341 | 0.0000 | 132.3029 | 132.3029 | 0.0168 | 0.0111 | 136.0184 |
| 2023 | 0.3757 | 1.6631 | 1.9720 | 4.1900e-003 | 0.0990 | 0.0738 | 0.1728 | 0.0269 | 0.0694 | 0.0963 | 0.0000 | 374.1179 | 374.1179 | 0.0622 | 0.0121 | 379.2769 |
| **Maximum** | **0.3757** | **1.6631** | **1.9720** | **4.1900e-003** | **0.0990** | **0.0738** | **0.1728** | **0.0269** | **0.0694** | **0.0963** | **0.0000** | **374.1179** | **374.1179** | **0.0622** | **0.0121** | **379.2769** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **9.39** | **0.00** | **5.91** | **15.11** | **0.00** | **5.43** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| **1** | **11-1-2022** | **1-31-2023** | 0.7804 | 0.7804 |
| **2** | **2-1-2023** | **4-30-2023** | 0.5744 | 0.5744 |
| **3** | **5-1-2023** | **7-31-2023** | 0.5914 | 0.5914 |
| **4** | **8-1-2023** | **9-30-2023** | 0.3864 | 0.3864 |
| | | **Highest** | 0.7804 | 0.7804 |

## 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 | 0.2976 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |
| Energy | 2.3100e-003 | 0.0210 | 0.0177 | 1.3000e-004 | | 1.6000e-003 | 1.6000e-003 | | 1.6000e-003 | 1.6000e-003 | 0.0000 | 128.0351 | 128.0351 | 6.8600e-003 | 1.2000e-003 | 128.5638 |
| Mobile | 0.3027 | 0.3412 | 2.7852 | 5.7200e-003 | 0.5892 | 4.5300e-003 | 0.5938 | 0.1573 | 4.2300e-003 | 0.1615 | 0.0000 | 533.5127 | 533.5127 | 0.0390 | 0.0247 | 541.8348 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 13.1112 | 0.0000 | 13.1112 | 0.7749 | 0.0000 | 32.4824 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 4.7637 | 52.9713 | 57.7349 | 0.4925 | 0.0120 | 73.6074 |
| **Total** | **0.6026** | **0.3622** | **2.8051** | **5.8500e-003** | **0.5892** | **6.1400e-003** | **0.5954** | **0.1573** | **5.8400e-003** | **0.1631** | **17.8749** | **714.5233** | **732.3982** | **1.3132** | **0.0378** | **776.4930** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | 0.2976 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |
| Energy | 2.3100e-003 | 0.0210 | 0.0177 | 1.3000e-004 | | 1.6000e-003 | 1.6000e-003 | | 1.6000e-003 | 1.6000e-003 | 0.0000 | 128.0351 | 128.0351 | 6.8600e-003 | 1.2000e-003 | 128.5638 |
| Mobile | 0.2590 | 0.2615 | 2.1422 | 4.0800e-003 | 0.4158 | 3.3300e-003 | 0.4192 | 0.1110 | 3.1000e-003 | 0.1141 | 0.0000 | 380.7774 | 380.7774 | 0.0313 | 0.0192 | 387.2720 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 3.2778 | 0.0000 | 3.2778 | 0.1937 | 0.0000 | 8.1206 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 4.7637 | 52.9713 | 57.7349 | 0.4925 | 0.0120 | 73.6074 |
| **Total** | **0.5589** | **0.2825** | **2.1621** | **4.2100e-003** | **0.4158** | **4.9400e-003** | **0.4208** | **0.1110** | **4.7100e-003** | **0.1157** | **8.0415** | **561.7880** | **569.8294** | **0.7244** | **0.0323** | **597.5684** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **7.26** | **21.99** | **22.92** | **28.03** | **29.42** | **19.54** | **29.32** | **29.42** | **19.35** | **29.06** | **55.01** | **21.38** | **22.20** | **44.84** | **14.52** | **23.04** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 2.3 Vegetation

**Vegetation**

| | CO2e |
|---|---|
| Category | MT |
| New Trees | 36.8160 |
| **Total** | **36.8160** |

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Grading | Grading | 11/1/2022 | 11/10/2022 | 5 | 8 | |
| 2 | Building Construction | Building Construction | 11/11/2022 | 9/28/2023 | 5 | 230 | |
| 3 | Paving | Paving | 9/29/2023 | 10/24/2023 | 5 | 18 | |
| 4 | Architectural Coating | Architectural Coating | 10/25/2023 | 11/17/2023 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4.1**

**Acres of Paving: 3.58**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 103,350; Non-Residential Outdoor: 34,450; Striped Parking Area: 9,440 (Architectural Coating – sqft)**

**OffRoad Equipment**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Grading | 6 | 15.00 | 0.00 | 1,750.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 93.00 | 37.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 19.00 | 0.00 | 0.00 | 10.80 | 7.30 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0273 | 0.0000 | 0.0273 | 0.0136 | 0.0000 | 0.0136 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7900e-003 | 0.0834 | 0.0611 | 1.2000e-004 | | 3.7600e-003 | 3.7600e-003 | | 3.4600e-003 | 3.4600e-003 | 0.0000 | 10.4219 | 10.4219 | 3.3700e-003 | 0.0000 | 10.5062 |
| **Total** | **7.7900e-003** | **0.0834** | **0.0611** | **1.2000e-004** | **0.0273** | **3.7600e-003** | **0.0310** | **0.0136** | **3.4600e-003** | **0.0171** | **0.0000** | **10.4219** | **10.4219** | **3.3700e-003** | **0.0000** | **10.5062** |

### 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 | 3.8800e-003 | 0.1473 | 0.0348 | 5.5000e-004 | 0.0150 | 1.3700e-003 | 0.0164 | 4.1200e-003 | 1.3100e-003 | 5.4300e-003 | 0.0000 | 54.8461 | 54.8461 | 2.6300e-003 | 8.7100e-003 | 57.5084 |
| 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 | 1.7000e-004 | 1.3000e-004 | 1.4700e-003 | 0.0000 | 4.8000e-004 | 0.0000 | 4.8000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.3957 | 0.3957 | 1.0000e-005 | 1.0000e-005 | 0.3994 |
| **Total** | **4.0500e-003** | **0.1475** | **0.0362** | **5.5000e-004** | **0.0155** | **1.3700e-003** | **0.0168** | **4.2500e-003** | **1.3100e-003** | **5.5600e-003** | **0.0000** | **55.2418** | **55.2418** | **2.6400e-003** | **8.7200e-003** | **57.9078** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.2 Grading - 2022

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0123 | 0.0000 | 0.0123 | 6.1300e-003 | 0.0000 | 6.1300e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 7.7900e-003 | 0.0834 | 0.0611 | 1.2000e-004 | | 3.7600e-003 | 3.7600e-003 | | 3.4600e-003 | 3.4600e-003 | 0.0000 | 10.4219 | 10.4219 | 3.3700e-003 | 0.0000 | 10.5062 |
| **Total** | **7.7900e-003** | **0.0834** | **0.0611** | **1.2000e-004** | **0.0123** | **3.7600e-003** | **0.0160** | **6.1300e-003** | **3.4600e-003** | **9.5900e-003** | **0.0000** | **10.4219** | **10.4219** | **3.3700e-003** | **0.0000** | **10.5062** |

### 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 | 3.8800e-003 | 0.1473 | 0.0348 | 5.5000e-004 | 0.0150 | 1.3700e-003 | 0.0164 | 4.1200e-003 | 1.3100e-003 | 5.4300e-003 | 0.0000 | 54.8461 | 54.8461 | 2.6300e-003 | 8.7100e-003 | 57.5084 |
| 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 | 1.7000e-004 | 1.3000e-004 | 1.4700e-003 | 0.0000 | 4.8000e-004 | 0.0000 | 4.8000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.3957 | 0.3957 | 1.0000e-005 | 1.0000e-005 | 0.3994 |
| **Total** | **4.0500e-003** | **0.1475** | **0.0362** | **5.5000e-004** | **0.0155** | **1.3700e-003** | **0.0168** | **4.2500e-003** | **1.3100e-003** | **5.5600e-003** | **0.0000** | **55.2418** | **55.2418** | **2.6400e-003** | **8.7200e-003** | **57.9078** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0307 | 0.2811 | 0.2945 | 4.8000e-004 | | 0.0146 | 0.0146 | | 0.0137 | 0.0137 | 0.0000 | 41.7105 | 41.7105 | 9.9900e-003 | 0.0000 | 41.9604 |
| **Total** | **0.0307** | **0.2811** | **0.2945** | **4.8000e-004** | | **0.0146** | **0.0146** | | **0.0137** | **0.0137** | **0.0000** | **41.7105** | **41.7105** | **9.9900e-003** | **0.0000** | **41.9604** |

### 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 | 1.4700e-003 | 0.0367 | 0.0120 | 1.4000e-004 | 4.4200e-003 | 3.9000e-004 | 4.8100e-003 | 1.2800e-003 | 3.7000e-004 | 1.6500e-003 | 0.0000 | 13.8887 | 13.8887 | 4.2000e-004 | 2.0200e-003 | 14.5005 |
| Worker | 4.8300e-003 | 3.5100e-003 | 0.0412 | 1.2000e-004 | 0.0134 | 8.0000e-005 | 0.0135 | 3.5700e-003 | 7.0000e-005 | 3.6400e-003 | 0.0000 | 11.0400 | 11.0400 | 3.5000e-004 | 3.2000e-004 | 11.1436 |
| **Total** | **6.3000e-003** | **0.0402** | **0.0532** | **2.6000e-004** | **0.0178** | **4.7000e-004** | **0.0183** | **4.8500e-003** | **4.4000e-004** | **5.2900e-003** | **0.0000** | **24.9287** | **24.9287** | **7.7000e-004** | **2.3400e-003** | **25.6441** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2022

**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 | 0.0307 | 0.2811 | 0.2945 | 4.8000e-004 | | 0.0146 | 0.0146 | | 0.0137 | 0.0137 | 0.0000 | 41.7105 | 41.7105 | 9.9900e-003 | 0.0000 | 41.9603 |
| **Total** | **0.0307** | **0.2811** | **0.2945** | **4.8000e-004** | | **0.0146** | **0.0146** | | **0.0137** | **0.0137** | **0.0000** | **41.7105** | **41.7105** | **9.9900e-003** | **0.0000** | **41.9603** |

**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 | 1.4700e-003 | 0.0367 | 0.0120 | 1.4000e-004 | 4.4200e-003 | 3.9000e-004 | 4.8100e-003 | 1.2800e-003 | 3.7000e-004 | 1.6500e-003 | 0.0000 | 13.8887 | 13.8887 | 4.2000e-004 | 2.0200e-003 | 14.5005 |
| Worker | 4.8300e-003 | 3.5100e-003 | 0.0412 | 1.2000e-004 | 0.0134 | 8.0000e-005 | 0.0135 | 3.5700e-003 | 7.0000e-005 | 3.6400e-003 | 0.0000 | 11.0400 | 11.0400 | 3.5000e-004 | 3.2000e-004 | 11.1436 |
| **Total** | **6.3000e-003** | **0.0402** | **0.0532** | **2.6000e-004** | **0.0178** | **4.7000e-004** | **0.0183** | **4.8500e-003** | **4.4000e-004** | **5.2900e-003** | **0.0000** | **24.9287** | **24.9287** | **7.7000e-004** | **2.3400e-003** | **25.6441** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 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 | 0.1526 | 1.3953 | 1.5757 | 2.6100e-003 | | 0.0679 | 0.0679 | | 0.0639 | 0.0639 | 0.0000 | 224.8506 | 224.8506 | 0.0535 | 0.0000 | 226.1878 |
| **Total** | **0.1526** | **1.3953** | **1.5757** | **2.6100e-003** | | **0.0679** | **0.0679** | | **0.0639** | **0.0639** | **0.0000** | **224.8506** | **224.8506** | **0.0535** | **0.0000** | **226.1878** |

### 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 | 4.2100e-003 | 0.1593 | 0.0562 | 7.4000e-004 | 0.0238 | 9.4000e-004 | 0.0248 | 6.8800e-003 | 9.0000e-004 | 7.7800e-003 | 0.0000 | 72.0134 | 72.0134 | 2.1800e-003 | 0.0104 | 75.1774 |
| Worker | 0.0244 | 0.0169 | 0.2061 | 6.2000e-004 | 0.0723 | 4.0000e-004 | 0.0727 | 0.0192 | 3.7000e-004 | 0.0196 | 0.0000 | 57.9604 | 57.9604 | 1.7000e-003 | 1.6000e-003 | 58.4787 |
| **Total** | **0.0286** | **0.1762** | **0.2623** | **1.3600e-003** | **0.0962** | **1.3400e-003** | **0.0975** | **0.0261** | **1.2700e-003** | **0.0274** | **0.0000** | **129.9738** | **129.9738** | **3.8800e-003** | **0.0120** | **133.6561** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.3 Building Construction - 2023

**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 | 0.1526 | 1.3953 | 1.5757 | 2.6100e-003 | | 0.0679 | 0.0679 | | 0.0639 | 0.0639 | 0.0000 | 224.8503 | 224.8503 | 0.0535 | 0.0000 | 226.1876 |
| **Total** | **0.1526** | **1.3953** | **1.5757** | **2.6100e-003** | | **0.0679** | **0.0679** | | **0.0639** | **0.0639** | **0.0000** | **224.8503** | **224.8503** | **0.0535** | **0.0000** | **226.1876** |

**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 | 4.2100e-003 | 0.1593 | 0.0562 | 7.4000e-004 | 0.0238 | 9.4000e-004 | 0.0248 | 6.8800e-003 | 9.0000e-004 | 7.7800e-003 | 0.0000 | 72.0134 | 72.0134 | 2.1800e-003 | 0.0104 | 75.1774 |
| Worker | 0.0244 | 0.0169 | 0.2061 | 6.2000e-004 | 0.0723 | 4.0000e-004 | 0.0727 | 0.0192 | 3.7000e-004 | 0.0196 | 0.0000 | 57.9604 | 57.9604 | 1.7000e-003 | 1.6000e-003 | 58.4787 |
| **Total** | **0.0286** | **0.1762** | **0.2623** | **1.3600e-003** | **0.0962** | **1.3400e-003** | **0.0975** | **0.0261** | **1.2700e-003** | **0.0274** | **0.0000** | **129.9738** | **129.9738** | **3.8800e-003** | **0.0120** | **133.6561** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 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 | 8.2600e-003 | 0.0791 | 0.1097 | 1.7000e-004 | | 3.9200e-003 | 3.9200e-003 | | 3.6200e-003 | 3.6200e-003 | 0.0000 | 14.7407 | 14.7407 | 4.6300e-003 | 0.0000 | 14.8565 |
| Paving | 1.9900e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0103** | **0.0791** | **0.1097** | **1.7000e-004** | | **3.9200e-003** | **3.9200e-003** | | **3.6200e-003** | **3.6200e-003** | **0.0000** | **14.7407** | **14.7407** | **4.6300e-003** | **0.0000** | **14.8565** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.9000e-004 | 3.4000e-004 | 4.1100e-003 | 1.0000e-005 | 1.4400e-003 | 1.0000e-005 | 1.4500e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.1565 | 1.1565 | 3.0000e-005 | 3.0000e-005 | 1.1669 |
| **Total** | **4.9000e-004** | **3.4000e-004** | **4.1100e-003** | **1.0000e-005** | **1.4400e-003** | **1.0000e-005** | **1.4500e-003** | **3.8000e-004** | **1.0000e-005** | **3.9000e-004** | **0.0000** | **1.1565** | **1.1565** | **3.0000e-005** | **3.0000e-005** | **1.1669** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.4 Paving - 2023

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 8.2600e-003 | 0.0791 | 0.1097 | 1.7000e-004 | | 3.9200e-003 | 3.9200e-003 | | 3.6200e-003 | 3.6200e-003 | 0.0000 | 14.7407 | 14.7407 | 4.6300e-003 | 0.0000 | 14.8565 |
| Paving | 1.9900e-003 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0103** | **0.0791** | **0.1097** | **1.7000e-004** | | **3.9200e-003** | **3.9200e-003** | | **3.6200e-003** | **3.6200e-003** | **0.0000** | **14.7407** | **14.7407** | **4.6300e-003** | **0.0000** | **14.8565** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.9000e-004 | 3.4000e-004 | 4.1100e-003 | 1.0000e-005 | 1.4400e-003 | 1.0000e-005 | 1.4500e-003 | 3.8000e-004 | 1.0000e-005 | 3.9000e-004 | 0.0000 | 1.1565 | 1.1565 | 3.0000e-005 | 3.0000e-005 | 1.1669 |
| **Total** | **4.9000e-004** | **3.4000e-004** | **4.1100e-003** | **1.0000e-005** | **1.4400e-003** | **1.0000e-005** | **1.4500e-003** | **3.8000e-004** | **1.0000e-005** | **3.9000e-004** | **0.0000** | **1.1565** | **1.1565** | **3.0000e-005** | **3.0000e-005** | **1.1669** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 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 | 0.1816 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.7200e-003 | 0.0117 | 0.0163 | 3.0000e-005 | | 6.4000e-004 | 6.4000e-004 | | 6.4000e-004 | 6.4000e-004 | 0.0000 | 2.2979 | 2.2979 | 1.4000e-004 | 0.0000 | 2.3014 |
| **Total** | **0.1833** | **0.0117** | **0.0163** | **3.0000e-005** | | **6.4000e-004** | **6.4000e-004** | | **6.4000e-004** | **6.4000e-004** | **0.0000** | **2.2979** | **2.2979** | **1.4000e-004** | **0.0000** | **2.3014** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.6000e-004 | 3.2000e-004 | 3.9100e-003 | 1.0000e-005 | 1.3700e-003 | 1.0000e-005 | 1.3800e-003 | 3.6000e-004 | 1.0000e-005 | 3.7000e-004 | 0.0000 | 1.0987 | 1.0987 | 3.0000e-005 | 3.0000e-005 | 1.1085 |
| **Total** | **4.6000e-004** | **3.2000e-004** | **3.9100e-003** | **1.0000e-005** | **1.3700e-003** | **1.0000e-005** | **1.3800e-003** | **3.6000e-004** | **1.0000e-005** | **3.7000e-004** | **0.0000** | **1.0987** | **1.0987** | **3.0000e-005** | **3.0000e-005** | **1.1085** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 3.5 Architectural Coating - 2023

### 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 | 0.1816 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.7200e-003 | 0.0117 | 0.0163 | 3.0000e-005 | | 6.4000e-004 | 6.4000e-004 | | 6.4000e-004 | 6.4000e-004 | 0.0000 | 2.2979 | 2.2979 | 1.4000e-004 | 0.0000 | 2.3014 |
| **Total** | **0.1833** | **0.0117** | **0.0163** | **3.0000e-005** | | **6.4000e-004** | **6.4000e-004** | | **6.4000e-004** | **6.4000e-004** | **0.0000** | **2.2979** | **2.2979** | **1.4000e-004** | **0.0000** | **2.3014** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.6000e-004 | 3.2000e-004 | 3.9100e-003 | 1.0000e-005 | 1.3700e-003 | 1.0000e-005 | 1.3800e-003 | 3.6000e-004 | 1.0000e-005 | 3.7000e-004 | 0.0000 | 1.0987 | 1.0987 | 3.0000e-005 | 3.0000e-005 | 1.1085 |
| **Total** | **4.6000e-004** | **3.2000e-004** | **3.9100e-003** | **1.0000e-005** | **1.3700e-003** | **1.0000e-005** | **1.3800e-003** | **3.6000e-004** | **1.0000e-005** | **3.7000e-004** | **0.0000** | **1.0987** | **1.0987** | **3.0000e-005** | **3.0000e-005** | **1.1085** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

# 4.0 Operational Detail - Mobile

## 4.1 Mitigation Measures Mobile

Improve Destination Accessibility

Increase Transit Accessibility

| | ROG | NOx | CO | SO2 | Fugitive 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 | 0.2590 | 0.2615 | 2.1422 | 4.0800e-003 | 0.4158 | 3.3300e-003 | 0.4192 | 0.1110 | 3.1000e-003 | 0.1141 | 0.0000 | 380.7774 | 380.7774 | 0.0313 | 0.0192 | 387.2720 |
| Unmitigated | 0.3027 | 0.3412 | 2.7852 | 5.7200e-003 | 0.5892 | 4.5300e-003 | 0.5938 | 0.1573 | 4.2300e-003 | 0.1615 | 0.0000 | 533.5127 | 533.5127 | 0.0390 | 0.0247 | 541.8348 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| General Office Building | 343.00 | 343.00 | 343.00 | 819,685 | 578,499 |
| Other Non-Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 258.75 | 258.75 | 258.75 | 755,424 | 533,146 |
| Total | 601.75 | 601.75 | 601.75 | 1,575,109 | 1,111,645 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| General Office Building | 9.50 | 7.30 | 7.30 | 33.00 | 48.00 | 19.00 | 77 | 19 | 4 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Non-Asphalt Surfaces | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Parking Lot | 9.50 | 7.30 | 7.30 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 9.50 | 7.30 | 7.30 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

### 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Other Non-Asphalt Surfaces | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Parking Lot | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |
| Unrefrigerated Warehouse-No Rail | 0.553514 | 0.062792 | 0.181046 | 0.120736 | 0.024419 | 0.006214 | 0.008493 | 0.006184 | 0.000715 | 0.000556 | 0.029185 | 0.000982 | 0.005164 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 105.1472 | 105.1472 | 6.4300e-003 | 7.8000e-004 | 105.5400 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 105.1472 | 105.1472 | 6.4300e-003 | 7.8000e-004 | 105.5400 |
| NaturalGas Mitigated | 2.3100e-003 | 0.0210 | 0.0177 | 1.3000e-004 | | 1.6000e-003 | 1.6000e-003 | | 1.6000e-003 | 1.6000e-003 | 0.0000 | 22.8878 | 22.8878 | 4.4000e-004 | 4.2000e-004 | 23.0239 |
| NaturalGas Unmitigated | 2.3100e-003 | 0.0210 | 0.0177 | 1.3000e-004 | | 1.6000e-003 | 1.6000e-003 | | 1.6000e-003 | 1.6000e-003 | 0.0000 | 22.8878 | 22.8878 | 4.4000e-004 | 4.2000e-004 | 23.0239 |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | | | | | |
| General Office Building | 343515 | 1.8500e-003 | 0.0168 | 0.0141 | 1.0000e-004 | | 1.2800e-003 | 1.2800e-003 | | 1.2800e-003 | 1.2800e-003 | 0.0000 | 18.3312 | 18.3312 | 3.5000e-004 | 3.4000e-004 | 18.4402 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 85387.5 | 4.6000e-004 | 4.1900e-003 | 3.5200e-003 | 3.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 4.5566 | 4.5566 | 9.0000e-005 | 8.0000e-005 | 4.5837 |
| **Total** | | **2.3100e-003** | **0.0210** | **0.0177** | **1.3000e-004** | | **1.6000e-003** | **1.6000e-003** | | **1.6000e-003** | **1.6000e-003** | **0.0000** | **22.8878** | **22.8878** | **4.4000e-004** | **4.2000e-004** | **23.0239** |

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**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| General Office Building | 343515 | 1.8500e-003 | 0.0168 | 0.0141 | 1.0000e-004 | | 1.2800e-003 | 1.2800e-003 | | 1.2800e-003 | 1.2800e-003 | 0.0000 | 18.3312 | 18.3312 | 3.5000e-004 | 3.4000e-004 | 18.4402 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 85387.5 | 4.6000e-004 | 4.1900e-003 | 3.5200e-003 | 3.0000e-005 | | 3.2000e-004 | 3.2000e-004 | | 3.2000e-004 | 3.2000e-004 | 0.0000 | 4.5566 | 4.5566 | 9.0000e-005 | 8.0000e-005 | 4.5837 |
| **Total** | | **2.3100e-003** | **0.0210** | **0.0177** | **1.3000e-004** | | **1.6000e-003** | **1.6000e-003** | | **1.6000e-003** | **1.6000e-003** | **0.0000** | **22.8878** | **22.8878** | **4.4000e-004** | **4.2000e-004** | **23.0239** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 221921 | 54.3553 | 3.3200e-003 | 4.0000e-004 | 54.5583 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 23660 | 5.7951 | 3.5000e-004 | 4.0000e-005 | 5.8167 |
| Unrefrigerated Warehouse-No Rail | 183713 | 44.9969 | 2.7500e-003 | 3.3000e-004 | 45.1649 |
| **Total** | | **105.1472** | **6.4200e-003** | **7.7000e-004** | **105.5400** |

## 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| General Office Building | 221921 | 54.3553 | 3.3200e-003 | 4.0000e-004 | 54.5583 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 23660 | 5.7951 | 3.5000e-004 | 4.0000e-005 | 5.8167 |
| Unrefrigerated Warehouse-No Rail | 183713 | 44.9969 | 2.7500e-003 | 3.3000e-004 | 45.1649 |
| **Total** | | **105.1472** | **6.4200e-003** | **7.7000e-004** | **105.5400** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | 0.2976 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |
| Unmitigated | 0.2976 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0182 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2793 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.0000e-004 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |
| **Total** | **0.2976** | **2.0000e-005** | **2.2000e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **4.2900e-003** | **4.2900e-003** | **1.0000e-005** | **0.0000** | **4.5700e-003** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule 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 | 0.0182 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.2793 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 2.0000e-004 | 2.0000e-005 | 2.2000e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 4.2900e-003 | 4.2900e-003 | 1.0000e-005 | 0.0000 | 4.5700e-003 |
| **Total** | **0.2976** | **2.0000e-005** | **2.2000e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **4.2900e-003** | **4.2900e-003** | **1.0000e-005** | **0.0000** | **4.5700e-003** |

# 7.0 Water Detail

## 7.1 Mitigation Measures Water

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 57.7349 | 0.4925 | 0.0120 | 73.6074 |
| Unmitigated | 57.7349 | 0.4925 | 0.0120 | 73.6074 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 3.04813 / 1.86821 | 15.7720 | 0.1002 | 2.4500e-003 | 19.0093 |
| Other Non-Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 11.9672 / 0 | 41.9629 | 0.3923 | 9.4900e-003 | 54.5981 |
| **Total** | | **57.7349** | **0.4925** | **0.0119** | **73.6074** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| General Office Building | 3.04813 / 1.86821 | 15.7720 | 0.1002 | 2.4500e-003 | 19.0093 |
| Other Non-Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 11.9672 / 0 | 41.9629 | 0.3923 | 9.4900e-003 | 54.5981 |
| **Total** | | **57.7349** | **0.4925** | **0.0119** | **73.6074** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 3.2778 | 0.1937 | 0.0000 | 8.1206 |
| Unmitigated | 13.1112 | 0.7749 | 0.0000 | 32.4824 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| General Office Building | 15.95 | 3.2377 | 0.1913 | 0.0000 | 8.0213 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 48.64 | 9.8735 | 0.5835 | 0.0000 | 24.4611 |
| **Total** | | **13.1112** | **0.7749** | **0.0000** | **32.4824** |

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

## 8.2 Waste by Land Use

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| General Office Building | 3.9875 | 0.8094 | 0.0478 | 0.0000 | 2.0053 |
| Other Non-Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 12.16 | 2.4684 | 0.1459 | 0.0000 | 6.1153 |
| **Total** | | **3.2778** | **0.1937** | **0.0000** | **8.1206** |

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

**EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied**

| Equipment Type | Number |
|---|---|

## 11.0 Vegetation

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT | | | |
| Unmitigated | 36.8160 | 0.0000 | 0.0000 | 36.8160 |

### 11.2 Net New Trees

**Species Class**

| | Number of Trees | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| | | MT | | | |
| Miscellaneous | 52 | 36.8160 | 0.0000 | 0.0000 | 36.8160 |
| **Total** | | **36.8160** | **0.0000** | **0.0000** | **36.8160** |

# Appendix C:

EMFAC 2017 Outputs

EMFAC2017 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: SAN DIEGO COUNTY APCD
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption. Note 'day' in the unit is operation day.

| Region | Calendar Year | Vehicle Category | Model Year | Speed | Fuel | Population | Trips | Fuel Consumption | Fuel Consumption | Total Fuel Consumption | VMT | Total VMT | Miles Per Gallon | Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAN DIEGO | 2022 | HHDT | Aggregated | Aggregated | GAS | 18.77674363 | 375.6850865 | 0.510290016 | 510.2900165 | 294279.3224 | 2078.264597 | 1905787.878 | **6.48** | **HHD** |
| SAN DIEGO | 2022 | HHDT | Aggregated | Aggregated | DSL | 15794.34681 | 164553.9614 | 293.7690323 | 293769.0323 | | 1903709.613 | | | |
| SAN DIEGO | 2022 | LDA | Aggregated | Aggregated | GAS | 1435699.418 | 6783861.728 | 1756.768474 | 1756768.474 | | 55007780.65 | | | |
| SAN DIEGO | 2022 | LDA | Aggregated | Aggregated | DSL | 17133.82279 | 80255.84288 | 13.98689813 | 13986.89813 | | 652152.3233 | | | |
| SAN DIEGO | 2022 | LDA | Aggregated | Aggregated | ELEC | 29615.71622 | 147126.8242 | 0 | 0 | 1770755.372 | 1220433.518 | 56880366.49 | **32.12** | **LDA** |
| SAN DIEGO | 2022 | LDT1 | Aggregated | Aggregated | GAS | 169175.431 | 769447.3084 | 225.5647168 | 225564.7168 | | 5914590.816 | | | |
| SAN DIEGO | 2022 | LDT1 | Aggregated | Aggregated | DSL | 113.2397115 | 373.3953636 | 0.09031383 | 90.31383008 | | 2054.345981 | | | |
| SAN DIEGO | 2022 | LDT1 | Aggregated | Aggregated | ELEC | 971.2611106 | 4899.002475 | 0 | 0 | 225655.0307 | 42156.15901 | 5958801.321 | **26.41** | **LDT1** |
| SAN DIEGO | 2022 | LDT2 | Aggregated | Aggregated | GAS | 488321.8489 | 2269428.213 | 726.6298291 | 726629.8291 | | 17717580.65 | | | |
| SAN DIEGO | 2022 | LDT2 | Aggregated | Aggregated | DSL | 3092.947351 | 15116.12168 | 3.722637831 | 3722.637831 | | 128253.9843 | | | |
| SAN DIEGO | 2022 | LDT2 | Aggregated | Aggregated | ELEC | 4120.808458 | 20868.27325 | 0 | 0 | 730352.467 | 138746.596 | 17984581.23 | **24.62** | **LDT2** |
| SAN DIEGO | 2022 | LHDT1 | Aggregated | Aggregated | GAS | 35010.024 | 521597.1927 | 149.4572747 | 149457.2747 | | 1262246.991 | | | |
| SAN DIEGO | 2022 | LHDT1 | Aggregated | Aggregated | DSL | 31841.31105 | 400523.6367 | 65.79515455 | 65795.15455 | 215252.4293 | 1204730.715 | 2466977.706 | **11.46** | **LHDT1** |
| SAN DIEGO | 2022 | LHDT2 | Aggregated | Aggregated | GAS | 5418.126472 | 80722.01142 | 26.59574267 | 26595.74267 | | 196430.7729 | | | |
| SAN DIEGO | 2022 | LHDT2 | Aggregated | Aggregated | DSL | 11200.50375 | 140888.2469 | 26.45016182 | 26450.16182 | 53045.90448 | 432523.1484 | 628953.9213 | **11.86** | **LHDT2** |
| SAN DIEGO | 2022 | MCY | Aggregated | Aggregated | GAS | 79518.52429 | 159037.0486 | 17.58110647 | 17581.10647 | 17581.10647 | 640833.4249 | 640833.4249 | **36.45** | **MCY** |
| SAN DIEGO | 2022 | MDV | Aggregated | Aggregated | GAS | 321247.3365 | 1477989.237 | 570.2023147 | 570202.3147 | | 11505919.06 | | | |
| SAN DIEGO | 2022 | MDV | Aggregated | Aggregated | DSL | 7551.73175 | 36627.42275 | 12.05507792 | 12055.07792 | | 316244.8871 | | | |
| SAN DIEGO | 2022 | MDV | Aggregated | Aggregated | ELEC | 2146.208886 | 10981.04226 | 0 | 0 | 582257.3926 | 74612.01209 | 11896775.96 | **20.43** | **MDV** |
| SAN DIEGO | 2022 | MH | Aggregated | Aggregated | GAS | 10724.34317 | 1072.863291 | 19.4317695 | 19431.7695 | | 92397.506 | | | |
| SAN DIEGO | 2022 | MH | Aggregated | Aggregated | DSL | 3838.325727 | 383.8325727 | 3.551800241 | 3551.800241 | 22983.56974 | 34608.84284 | 127006.3488 | **5.53** | **MH** |
| SAN DIEGO | 2022 | MHDT | Aggregated | Aggregated | GAS | 3610.281121 | 72234.50467 | 42.66175414 | 42661.75414 | | 207021.6124 | | | |
| SAN DIEGO | 2022 | MHDT | Aggregated | Aggregated | DSL | 19669.05689 | 186583.7136 | 124.4046627 | 124404.6627 | 167066.4169 | 1194911.604 | 1401933.216 | **8.39** | **MHDT** |
| SAN DIEGO | 2022 | OBUS | Aggregated | Aggregated | GAS | 1252.458708 | 25059.19382 | 13.42401562 | 13424.01562 | | 63800.57212 | | | |
| SAN DIEGO | 2022 | OBUS | Aggregated | Aggregated | DSL | 726.8076341 | 7248.336044 | 7.199165246 | 7199.165246 | 20623.18087 | 54661.74976 | 118462.3219 | **5.74** | **OBUS** |
| SAN DIEGO | 2022 | SBUS | Aggregated | Aggregated | GAS | 265.865016 | 1063.460064 | 1.458273949 | 1458.273949 | | 13954.70263 | | | |
| SAN DIEGO | 2022 | SBUS | Aggregated | Aggregated | DSL | 2407.453653 | 27781.68138 | 9.452901387 | 9452.901387 | 10911.17534 | 75270.84262 | 89225.54525 | **8.18** | **SBUS** |
| SAN DIEGO | 2022 | UBUS | Aggregated | Aggregated | GAS | 399.9064004 | 1599.625602 | 7.531505658 | 7531.505658 | | 42016.61226 | | | |
| SAN DIEGO | 2022 | UBUS | Aggregated | Aggregated | DSL | 0 | 0 | 0 | 0 | 7531.505658 | 0 | 42016.61226 | **5.58** | **UBUS** |

# Appendix D:

City of Escondido Climate Action Plan Consistency Review Checklist

# Climate Action Plan Consistency Review Checklist

***Project #*** _____

## Introduction

The City of Escondido ("City") adopted an updated Climate Action Plan ("CAP") on March 10, 2021 by Resolution No. 2021-37. The CAP outlines strategies and measures that the City will undertake to achieve its proportional share of State greenhouse gas ("GHG") emissions reduction targets. The CAP's strategies and measures are designed to reduce GHG emissions for build-out under the General Plan. The CAP does so by (1) calculating a baseline GHG emissions level as of 2012; and (2) estimating future GHG emissions under a business as usual standard; and (3) implementing state mandated GHG reduction targets. Measures to reduce GHG emissions for projects with land use consistent with the City's General Plan are found in the CAP.

Analysis of GHG emissions and potential climate change impacts from new development is required under CEQA. The purpose of the CAP Consistency Checklist ("Checklist") is to provide a streamlined review process for proposed development projects that trigger environmental review pursuant to the California Environmental Quality Act ("CEQA").

The City's CAP is a qualified GHG emissions reduction plan in accordance with State CEQA Guidelines Section 15183.5. Pursuant to CEQA Guidelines Sections 15064(h)(3), 15130(d), and 15183(b), a project's incremental contribution to a cumulative GHG emissions effect may be determined not to be cumulatively considerable if it complies with the requirements of a CAP. Projects that are consistent with the General Plan and implement applicable CAP GHG reduction measures may incorporate by reference the CAP's cumulative GHG analysis. Conversely, projects that are consistent with the General Plan, but do not implement CAP GHG reduction measures, as well as General Plan Amendments and Annexations that increase emissions beyond CAP projections — will require a project-level GHG analysis.

The purpose of this Checklist is to implement GHG reduction measures from the CAP and determine if development would demonstrate consistency with the CAP's assumptions for implementation. Projects that are consistent with the CAP, as determined through the use of this Checklist, may rely on the CAP for the cumulative impact analysis of GHG emissions. Projects that are not consistent with the CAP must prepare a comprehensive project-specific analysis of GHG emissions, including quantification of existing and projected GHG emissions, incorporation of the measures in this Checklist to the extent applicable, and demonstration of consistency with a VMT threshold currently in development by the City. Cumulative GHG impacts could be significant for any project that is not consistent with the CAP.

This Checklist may be updated periodically to incorporate new GHG reduction techniques, include reference to or requirements of new ordinances adopted by the City, or to comply with later amendments to the CAP or local, State, or federal law. Comprehensive updates to this Checklist will be coordinated with each CAP update. Administrative updates to the Checklist may occur regularly, as necessary for the

purpose of keeping the Checklist up-to-date and implementable. Updates to the CAP Checklist associated with an update to the City's CAP would require City Council approval and shall comply with CEQA.

# Applicability and Procedures

This Checklist is required only for discretionary projects[1] that are subject to and not exempt from CEQA. Projects that are exempt from CEQA are deemed to be consistent with the City's CAP, and no further review is necessary, with the exception of a Class 32 "In-Fill Development Projects" categorical exemption (State CEQA Guidelines Section 15332), for which projects are required to demonstrate consistency with the CAP through this Checklist.

General procedures for Checklist compliance and review are described below. Specific guidance is also provided under each of the questions under Steps 1 and 2 of the Checklist.

- The City's Community Development Department reviews development applications relative to environmental review requirements under Article 47 of the Escondido Zoning Code. These environmental quality regulations implement CEQA and State CEQA Guidelines by applying the provisions and procedures contained in CEQA to development projects proposed within the City.

- The project proponent or applicant must demonstrate if the project request is CAP compliant to the satisfaction of the Director of Community Development. In doing so, the project proponent or applicant must provide written documentation to demonstrate the applicability of the Checklist; and provide substantial evidence that demonstrates how the proposed project would implement each applicable Checklist requirement described herein.

- If a question in the Checklist is deemed not applicable (N/A) to a project, written documentation and substantial evidence supporting that conclusion shall be provided to the satisfaction of the Director of Community Development.

- Development projects requiring discretionary review that cannot demonstrate consistency with the CAP using this Checklist shall prepare a separate, project-level GHG analysis as part of the CEQA document prepared for the project and may be required to prepare an Environment Impact Report ("EIR").

- The specific applicable requirements outlined in the Checklist shall be required as conditions of project approval for CAP compliant projects with streamlined GHG emissions assessments.

[1] In this context, a project is any action that meets the definition of a "Project" in Section 15378 of the State CEQA Guidelines.

# Application Information

## Contact Information

Project No. and Name:

Property Address and APN: 2351 Meyers Ave. Escondido; 228-312-05 AND 228-312-06

Applicant Name and Co.: ViaWest, Rodney C. Boden

Contact Phone: (602) 957-8300 x149 Contact Email: rboden@viawestgroup.com

Was a consultant retained to complete this checklist? ☒ Yes ☐ No
If Yes, complete the following:

Consultant Name: Diane Jenkins, AICP Contact Phone: (909) 519-8887

Company Name: McKENNA LANIER GROUP, INC. DBE, WBE, SB Micro Contact Email: Diane@McKennaLanier.com

## Project Information

1. What is the size of the project site (acres)? 4.92 acres

2. Identify all applicable proposed land uses:

- ☐ Residential (indicate # of single-family dwelling units):
- ☐ Residential (indicate # of multi-family dwelling units):
- ☐ Commercial (indicate total square footage):
- ☒ Industrial (indicate total square footage): 67,300 sq. ft.
- ☐ Other (describe use and indicate size):

3. Provide a description of the project proposed. This description should match the basic project description used for the CEQA document. The description may be attached to the Checklist if there are space constraints.

# Step 1: Land Use Consistency

The first step in this section evaluates a project's GHG emissions consistent with the City's *Guidance to Demonstrating Consistency with the City of Escondido Climate Action Plan for Discretionary Projects Subject to CEQA* (Guidance Document). A summary of the process for determining the required level of analysis for these projects is provided in Figure 1, "Require Level of Analysis Flowchart," provided in the Guidance Document.

The CAP contains in-City GHG projections for 2020, 2030, and 2035. Measures to reduce GHG emissions for projects with land use consistent with the General Plan are found in the CAP. If any one of these calculations is erroneous, the CAP fails to accomplish this purpose. Therefore, the first step of this checklist is to determine if the project's anticipated growth would have been included in the CAP's business-as-usual land use and activity projections. This section allows the City to determine a project's consistency with the land use assumptions used in the CAP. Projects that are consistent with the General Plan may incorporate by reference the CAP's cumulative GHG analysis.

For projects that are determined to be consistent with CAP projections, the next step is to identify if the project would be estimated to emit fewer than 500 metric tons of carbon dioxide equivalent ($MTCO_2e$) annually. If found to emit fewer than 500 $MTCO_2e$, a project would not contribute considerably to cumulative climate change impacts as stated in the City's Guidance Document. Therefore, these projects would be considered consistent with the CAP.

Additionally, at the time of this CAP Checklist preparation, the City is in the process of developing screening thresholds for vehicle miles traveled (VMT) consistent with State legislation. . Thus, projects that would be below both the GHG and VMT screening level thresholds would not be anticipated to result in cumulative GHG impacts and conflict with the City's ability to achieve its GHG reduction targets.

| Step 1: Land Use Consistency | | |
|---|---|---|
| **Checklist Item**<br>(Check the appropriate box and provide an explanation and supporting documentation for your answer) | **Yes** | **No** |
| 1. Is the proposed project consistent with the City's existing General Plan land use designation?<br><br>If **"Yes"**, proceed to Question 3 of Step 1.<br><br>If **"No"**, proceed to Question 2 of Step 1. | ☒ | ☐ |
| 2. If the proposed project is not consistent with the existing General Plan land use designation, does the project include a General Plan Amendment that would generate GHG emissions equal to or less than estimated emissions generated under the existing designation?<br><br>If **"Yes",** provide estimated project emissions under both existing and proposed designation(s) for comparison and proceed to Question 3 of Step 1.<br><br>If **"No",** the project's GHG impact is potentially significant, and a GHG analysis must be prepared in accordance with the City's Guidance Document and applicable CEQA Guidelines. The project would not be eligible for GHG streamlining provisions of the CAP. The project must incorporate each of the measures identified in Step 2 to mitigate cumulative GHG emissions impacts unless a measure is determined to be infeasible in accordance with CEQA Guidelines Section 15091. Proceed and complete a project specific GHG analysis, and Step 2 of the Checklist. | ☐ | ☐ |
| 3. The size and type of projects listed below would emit fewer than 500 $MTCO_2e$ per year. Based on this threshold, does the proposed project exceed these characteristics?<br>▪ Single-Family Housing[2]: 36 dwelling units<br>▪ Multi-Family Housing: 55 dwelling units<br>▪ Office: 43,000 square feet<br>▪ Commercial Space: 20,000 square feet<br>▪ Regional Shopping Center: 18,000 square feet<br>▪ Restaurant: 6,500 square feet<br>▪ General Light Industrial: 58,000 square feet<br>▪ Warehouse (Unrefrigerated): 233,000 square feet<br>▪ Warehouse (Refrigerated): 62,000 square feet<br>▪ Mixed-Use: See the City's Guidance Document[3] for methods to estimate mixed-use development thresholds<br>▪ Other: For project types not listed in this section the need for GHG analysis and mitigation will be made on a project-specific basis, considering the 500 $MTCO_2e$ per year screening threshold.<br><br>If **"Yes",** proceed to Step 2.<br><br>If **"No",** in accordance with the City's CAP screening criteria, the project's GHG impact is less than significant and is not subject to the measures of the CAP. | ☐ | ☒ |

[2] Single-Family Housing developments are defined as single-family detached homes on individual lots. All other residential use types (e.g. single-family attached, condo/townhouse, apartment) should be considered "Multi-Family Housing" for the purposes of comparing a project to the screening thresholds.

[3] *Guidance for Demonstrating Consistency with the City of Escondido Climate Action Plan for discretionary Projects Subject to CEQA*, available at https://www.escondido.org/Data/Sites/1/media/PDFs/Planning/ClimateActionPlan/Final/Escondido_ThresholdsMemoFinal3.10.2021.pdf

# Step 2: CAP Measures Consistency

The second step of CAP consistency review is to evaluate a project's consistency with the applicable strategies and measures of the CAP. Each Checklist item is associated with specific GHG reduction measures in the City's CAP.

| Step 2: CAP Measures Consistency | | | |
|---|---|---|---|
| **Checklist Item**<br>(Check the appropriate box and provide an explanation for your answer. Please use additional sheets if necessary) | **Yes** | **No** | **N/A** |
| **Parking and Transportation Demand Management** | | | |
| **1. Electric Vehicle Charging Stations (Measures T-1.3 & T-1.4)**<br><br>All Projects: Will the project install electric vehicle charging stations (EVCSs) consistent with the following requirements:<br>• Comply with the most recently updated version of the California Building Energy Efficiency Standards (Title 24, Part 6)?<br>• For multi-family residential and commercial (i.e. office and retail commercial) projects, will the project install electric vehicle charging stations at a minimum of 10 percent of the total parking spaces provided?<br>• For single-family residential projects, will the project install at least one EVCS in each new single-family home?<br><br>Check "N/A" only if the project is not proposing any parking; or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 1: | | | |
| **2. Pedestrian Infrastructure (Measure T-3.2)**<br><br>All Projects: If the following conditions are met, would the project pay its fair-share contribution or fully install pedestrian infrastructure improvements?<br>☐ The project frontage is located along a roadway for which pedestrian improvements are identified in the City's Street Design Manual, Pedestrian Master Plan, Trail Master Plan, or Safe Routes to School and Transit Plans;<br>☐ The proposed project would include site design amenities with pedestrian access points from the existing, identified roadway; and,<br>☐ The identified pedestrian improvements have not yet been installed. Or if they have been installed, the infrastructure is being redesigned, upgraded, and/or maintained to promote universal access.<br><br>Check "N/A" only if the project does not propose any construction activities. | ☐ | ☐ | ☐ |

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| Please substantiate how the project satisfies question 2: | | | |
| **3. Transportation Demand Management and Transit (Measures T-3.4 and T-3.6)**<br><br>Single-Family Projects: N/A<br><br>Multi-Family Residential Projects: If the project is located in the Downtown Specific Plan area and is proposing a reduction in over 15 percent of the required amount of on-site vehicular parking, would the project implement the following policies or programs?<br>• The project would provide six-month transit passes to new residents;<br>• The project establishes strong connections in site design to promote convenient access and transit orientation; and,<br>• The project would monitor transit use by new residents for the first six months of project operations.<br><br>Non-Residential Projects: If the project is located within the Downtown Specific Plan, South Centre City Specific Plan, or East Valley Parkway Specific Plan, will the project implement Transportation Demand Management (TDM) program that includes, at a minimum:<br>• "End-of-trip" facilities for bicycle commuters (e.g. bicycle parking spaces, showers, lockers);<br>• Discounted monthly North County Transit District (NCTD) passes or transit subsidies;<br>• Informational material (provided to each employee or tenant) for carpool and vanpool ride-matching services; and<br>• Parking cash-out policies.<br><br>Check "N/A" only if the project is a single-family residential project; if the project is multi-family or non-residential but not located within the aforementioned specific plans; or if the project does not propose any construction activities.. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 3: | | | |

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| **4. Bicycle Infrastructure (Measure T-3.5)**<br><br>All Projects: If the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements?<br>☐ Intersection or roadway improvements are proposed as part of the project; and<br>☐ The City's Bicycle Master Plan for identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be impacted as part of the project.<br><br>Check "N/A" if the intersection or roadway improvements required are fully in place to the satisfaction of the Director of Community Development; or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 4: | | | |

## Building Energy Use and Efficiency

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| **5. Alternatively Fueled Water Heaters (Measures E-4.1 and E-4.2)**<br><br>Residential Projects: If the project is a new single-family or multi-family residential development, will the project install electric heat pump water heaters?<br><br>Non-Residential Projects: If the project is non-residential, will the project install electric heat pump water heaters?<br><br>Check "N/A" only if the project is non-residential and has an alteration and addition with a permit value of $200,000 or less; or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 5: | | | |

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| **6. Electric Cooking Appliances (Measure E-4.2)**<br><br>Single-Family Residential Projects: N/A<br><br>Multi-Family Residential Projects: If the project is a new multi-family residential development, will the project install only electric cooking appliances?<br><br>Non-Residential Projects: N/A<br><br>Check "N/A" only if the project is a single-family residential or non-residential project, or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |

Please substantiate how the project satisfies question 6:

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| **7. Zero Net Energy (Measure E-5.2)**<br><br>Residential Projects: N/A<br><br>Commercial Projects: If the project is a new commercial retail or office development, would the project achieve zero net energy (i.e. the total amount of energy used on-site is equal to the amount of renewable energy created on-site) and comply with the most recently updated California Building Energy Efficiency Standards (Title 24, Part 6)?<br><br>Check "N/A" only if the project is a residential or project, or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |

Please substantiate how the project satisfies question 7:

| Landscaping and Land Conservation | | | |
|---|---|---|---|
| **8. Landscape Water Consumption (Measure W-6.2)**<br><br>Single-Family Residential Projects: If the project is proposing a single-family or townhome model home development, would the project:<br>• Fully equip all model homes with greywater systems and rain barrels (or other rainwater capture systems); and,<br>• Offer greywater systems and rain barrels (or other rainwater capture systems) as an add-on option for new homes.<br><br>Non-Residential Projects: N/A<br><br>Check "N/A" if the project is not a single-family or townhome model home development; or if the project does not propose any construction activities. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 8: | | | |
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| **9. Tree Planting (Measure C-9.1)**<br><br>All Projects: Would the project plant trees consistent with the following requirements?<br>• Would the project plant a minimum of one tree for every four new parking spaces and/or demonstrate 50% canopy coverage in parking areas?<br><br>Residential Projects: In addition to the planting requirements above for all projects, would the project be consistent with the following requirement?<br>• Would the project plant a minimum of one tree per dwelling unit or pay an in-lieu fee?<br><br>Check "N/A" only if the project is not proposing any landscaping; or if the City's landscape ordinance would not apply to the project. | ☐ | ☐ | ☐ |
| Please substantiate how the project satisfies question 9: | | | |
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