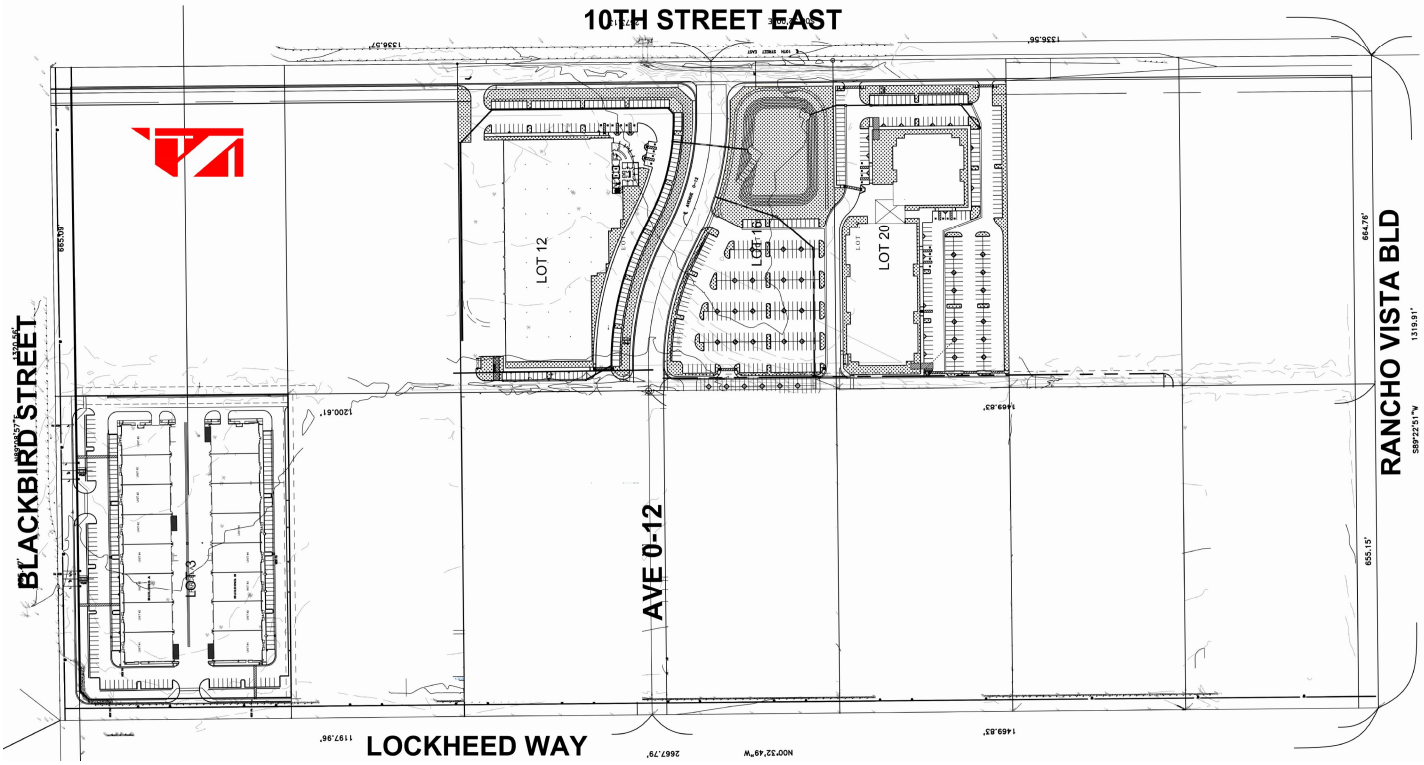
# APPENDIX A

Air Quality, Greenhouse Gas, and Energy Impact Study

# PBP INDUSTRIAL PROJECT
# AIR QUALITY, GREENHOUSE GAS, AND ENERGY IMPACT STUDY
# City of Palmdale, CA



# PBP INDUSTRIAL PROJECT
# AIR QUALITY, GREENHOUSE GAS, AND ENERGY IMPACT STUDY
# City of Palmdale, California

**Prepared for:**

Mr. Dan Bott
VCS ENVIRONMENTAL
30900 Rancho Viejo Road, Suite 100
San Juan Capistrano, CA 92675

**Prepared by:**

RK ENGINEERING GROUP, INC.
1401 Dove Street, Suite 540
Newport Beach, CA 92660

**Bryan Estrada, AICP**
**Becca Morrison**

**March 29, 2023**

# Table of Contents

# Table of Contents (continued)

# List of Attachments

## Exhibits



## Tables

# List of Attachments (continued)

## Tables



## Appendices

# 1.0 Introduction

The purpose of this air quality and greenhouse gas (GHG) analysis is to determine whether the estimated criteria air pollutants and greenhouse gas emissions generated from the construction and operation of the proposed PBP Industrial Project (hereinafter referred to as "project") would cause significant impacts.

This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows the California Air Resources Board (CARB), the Antelope Valley Air Quality Management District (AVAQMD), and City of Palmdale recommendations for quantification of emissions and evaluation of potential impacts.

This assessment also analyzes energy impacts pursuant to CEQA Guidelines, Appendix F, Energy Conservation requirements.

## 1.1 Site Location

The project site is generally located north of Rancho Vista Boulevard, south of Blackbird Drive, east of Lockheed Way, and west of 10$^{th}$ Street, and, in the City of Palmdale.

The project site is located within the Antelope Valley Air Quality Management District (AVAQMD) and the Mojave Desert Air Basin (MDAB). The nearest ambient air quality monitoring station is the Lancaster-Division Street Monitoring Station, located at 43301 Division Street, in the City of Lancaster.

The project location map is provided in Exhibit A.

## 1.2 Project Description

The project proposes to construct and operate five industrial/warehouse buildings totaling 300,000 square feet of area, a water detention basin, and associated parking areas on four parcels of land with a total area of 20.47 acres. A total of The site plan used for this analysis, provided by RED BRICK SOLUTION CONSULTING ENGINEERS & ARCHITECTS, is illustrated in Exhibit B. Table 1 summarizes the proposed project land uses.

**Table 1**
**Proposed Land Use Summary**

| Lot | Proposed Land Use | CalEEMod Land Use Category | Lot Size (Acres) | Building Size (Square Feet) |
|---|---|---|---|---|
| Lot 3 | Industrial/Warehouse | General Heavy Industry | 6.0 | 100,000 |
| Lot 12 | Industrial/Warehouse | General Heavy Industry | 5.7 | 100,000 |
| Lot 16 | Water Quality Basin/Parking Area | Parking Lot | 3.84 | -- |
| Lot 20 | Industrial/Warehouse | General Office Building | 4.93 | 100,000 |
| **Total** | | | **20.47** | **300,000** |

The project site is expected to import a total of approximately 79,421 cubic yards of earthwork material during construction. The project site is currently vacant, and no demolition is expected to be required.

The project proposes to complete its construction in three phases, depending on market conditions. To be conservative, this report analyzes emissions from all construction activity in one phase. Construction activities are expected to consist of site preparation, grading, building construction, paving, and architectural coating. The project is expected to be complete and operational in the year 2024.

## 1.3 Sensitive Receptors

Sensitive receptors are considered residences, schools, daycare centers, playgrounds, and medical facilities. The nearest adjacent sensitive receptors are considered existing residential land uses located approximately 990 feet (~300 meters) southeast of the southernmost border of the project site and approximately 240 feet south of the centerline of Rancho Vista Boulevard. The southernmost on-site industrial operations will occur approximately 1,200 feet (~365 meters) north of the nearest sensitive receptors.

## 1.4 Summary of Analysis Results

Table 2 provides a summary of the CEQA air quality impact analysis results.

**Table 2**
**CEQA Air Quality Impact Criteria**

| Air Quality Impact Criteria | Potentially Significant | Potentially Significant Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| a) Conflict with, or obstruct implementation of, the applicable air quality plan? | | | X | |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard? | | X | | |
| c) Expose sensitive receptors to substantial pollutant concentrations? | | X | | |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | | | X | |

Table 3 provides a summary of the CEQA GHG impact criteria analysis results.

**Table 3**
**CEQA GHG Impact Criteria**

| GHG Impact Criteria | Potentially Significant | Potentially Significant Unless Mitigated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | | | X | |
| b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases? | | | X | |

## 1.5 Recommended Project Design Features

The following recommended project design features are considered standard building code requirements and best practices that will be included in the project design.

**Construction Design Features:**

**AQ-1.** Per the requirements of AVAQMD Rule 403, the applicant shall submit a Dust Control Plan (DCP) to the Antelope Valley Air Quality Management District for review, and obtain approval, prior to initiating any grading or grubbing construction activity.

**AQ-2.** All construction equipment shall be maintained in proper tune.

**AQ-3.** All construction vehicles shall be prohibited from excessive idling. Excessive idling is defined as five minutes or longer.

**AQ-4.** Minimize the simultaneous operation of multiple construction equipment units.

**AQ-5.** All haul trucks shall be registered on-road vehicles that meet the latest emissions standards for operating in California.

**AQ-6.** Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

**Operational Design Features (DF):**

**DF-1.** The project will comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:

- Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
- Provide the necessary infrastructure to support electric vehicle charging.

**DF-2.** Participate in the local waste management recycling and composting programs.

## 1.6 Recommended Energy Mitigation Measure

**Energy-1** The project shall include rooftop solar panels or other sources of on-site renewable energy that will meet the energy needs of each project building.

# 2.0 Air Quality Setting

The Federal Clean Air Act (§ 7602) defines air pollution as any agent or combination of such agents, including any physical, chemical, biological, or radioactive substance which is emitted into or otherwise enters the ambient air. Household combustion devices, motor vehicles, industrial facilities and forest fires are common sources of air pollution. Air pollution can cause disease, allergies and death. It affects soil, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate. It can also cause damage to and deterioration of property, present hazards to transportation, and negatively impact the economy.[1]

This section provides background information on criteria air pollutants, the applicable federal, state and local regulations concerning air pollution, and the existing physical setting of the project within the context of local air quality.

## 2.1 Description of Air Pollutants.

The following section describes the air pollutants of concern related to the project. Criteria air pollutants are defined as those pollutants for which the federal and state governments have established air quality standards for outdoor or ambient concentrations to protect public health.

- **Carbon Monoxide (CO)** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, and competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for carbon monoxide is intended to protect persons whose medical condition already compromises their circulatory system's ability to deliver oxygen. These medical conditions include certain heart ailments, chronic lung diseases, and anemia. Persons with these conditions have reduced exercise capacity even when exposed to relatively low levels of CO. Fetuses are at risk because their blood has an even greater affinity to bind with CO. Smokers are also at risk from ambient CO levels because smoking increases the background level of CO in their blood.

[1] Federal Clean Air Act. 42 U.S.C. §7401 et seq. (1970)

- **Nitrogen Dioxide ($NO_2$)** is a byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), but NO reacts quickly to form $NO_2$, creating the mixture of NO and $NO_2$ commonly called $NO_x$. $NO_2$ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, $NO_2$ is only potentially irritating. There is some indication of a relationship between $NO_2$ and chronic pulmonary fibrosis. Some increase in bronchitis in young children has also been observed at concentrations below 0.3 parts per million (ppm). $NO_2$ absorbs blue light which results in a brownish red cast to the atmosphere and reduced visibility. Although $NO_2$ concentrations have not exceeded national standards since 1991 and the state hourly standard since 1993, $NO_x$ emissions remain of concern because of their contribution to the formation of $O_3$ and particulate matter.

- **Ozone ($O_3$)** is one of a number of substances called photochemical oxidants that are formed when volatile organic compounds (VOC) and $NO_x$ react in the presence of ultraviolet sunlight. $O_3$ concentrations in the South Coast basin are typically among the highest in the nation, and the damaging effects of photochemical smog, which is a popular name for a number of oxidants in combination, are generally related to the concentrations of $O_3$. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the subgroups most susceptible to $O_3$ effects. Short-term exposures (lasting for a few hours) to $O_3$ at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient $O_3$ levels and increases in daily hospital admission rates, as well as mortality, has also been reported.

- **Fine Particulate Matter ($PM_{10}$)** consists of extremely small suspended particles or droplets 10 microns or smaller in diameter that can lodge in the lungs, contributing to respiratory problems. $PM_{10}$ arises from such sources as re-entrained road dust, diesel soot, combustion products, tire and brake abrasion, construction operations, and fires. It is also formed in the atmosphere from $NO_x$ and $SO_2$ reactions with ammonia. $PM_{10}$ scatters light and significantly reduces visibility. Inhalable particulates pose a serious health hazard, alone or in combination with other pollutants. More than half of the smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Inhalable particulates can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance.

- **Ultra-Fine Particulate Matter ($PM_{2.5}$)** is defined as particulate matter with a diameter less than 2.5 microns and is a subset of $PM_{10}$. $PM_{2.5}$ consists mostly of products from the reaction of $NO_x$ and $SO_2$ with ammonia, secondary organics, finer dust particles, and the combustion of fuels, including diesel soot. $PM_{2.5}$ can cause exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease, declines in pulmonary function growth in children, and increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in $PM_{2.5}$ levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.

- **Sulfur dioxide ($SO_2$)** is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. Individuals with asthma may experience constriction of airways with exposure to $SO_2$. $SO_2$ is a precursor to sulfate and $PM_{10}$.

- **Lead (Pb)** is a toxic heavy metal that can be emitted into the air through some industrial processes, burning of leaded gasoline and past use of lead-based consumer products. Lead is a neurotoxin that accumulates in soft tissues and bones, damages the nervous system, and causes blood disorders. It is particularly problematic in children, in that permanent brain damage may result, even if blood levels are promptly normalized with treatment. Concentrations of lead once exceeded the state and federal air quality standards by a wide margin, but as a result of the removal of lead from motor vehicle gasoline, ambient air quality standards for lead have not been exceeded since 1982. Though special monitoring sites immediately downwind of lead sources recorded localized violations of the state standard in 1994, no violations have been recorded since. Consequently, the Mojave Desert basin is designated as an attainment area for lead by both the USEPA and CARB. This report does not analyze lead emissions from the project, as it is not expected to emit lead in any significant measurable quantity.

- **Volatile Organic Compounds (VOC),** are transformed into organic aerosols in the atmosphere, contributing to higher $PM_{10}$ and lower visibility levels. Sources of VOCs include combustion engines, and evaporative emissions associated with fuel, paints and solvents, asphalt paving, and the use of household consumer products such as aerosols. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations of VOC. Some hydrocarbon components classified as VOC emissions are hazardous air pollutants. Benzene, for example, is a hydrocarbon component of VOC emissions that are known to be a human carcinogen. The term reactive organic gases (ROG) are often used interchangeably with VOC.

- **Toxic Air Contaminants (TACs)** are defined as air pollutants which may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, and for which there is no concentration that does not present some risk. This contrasts with the criteria pollutants, in that there is no threshold level for TAC exposure below which adverse health impacts are not expected to occur. The majority of the estimated health risk from TACs can be attributed to a relatively few compounds, the most common being diesel particulate matter (DPM) from diesel engine exhaust. In addition to DPM, benzene and 1,3-butadiene are also significant contributors to overall ambient public health risk in California.

## 2.2 Federal and State Ambient Air Quality Standards

The Federal Clean Air Act, which was last amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) for criteria pollutants considered harmful to public health and the environment. The State of California has also established additional and more stringent California Ambient Air Quality Standards (CAAQS) in addition to the seven criteria pollutants designated by the federal government.

AAQS are designed to protect the health and welfare of the populace with a reasonable margin of safety. The standards are divided into two categories, primary standards and secondary standards. Primary standards are implemented to provide protection for the "sensitive" populations such as those with asthma, or the children and elderly. Secondary standards are to provide protection against visible pollution as well as damage to the surrounding environment, including animals, crops, and buildings.

Table 4 shows the Federal and State Ambient Air Quality Standards.

**Table 4**
**Federal and State Ambient Air Quality Standards (AAQS)[1]**

| Air Pollutant | Averaging Time [2] | Federal Standard (NAAQS)[2] | California Standard (CAAQS)[2] |
|---|---|---|---|
| Ozone | 1 Hour | -- | 0.09 ppm |
| | 8 Hour | 0.070 ppm | 0.070 ppm |
| Carbon Monoxide (CO) | 1 Hour | 35 ppm | 20 ppm |
| | 8 Hour | 9 ppm | 9 ppm |
| Nitrogen Dioxide ($NO_2$) | 1 Hour | 0.100 ppm | 0.18 ppm |
| | Annual | 0.053 ppm | 0.030 ppm |
| Sulfur Dioxide ($SO_2$) | 1 Hour | 0.075 ppm | 0.25 ppm |
| | 3 Hour | 0.5 ppm[3] | -- |
| | 24 Hour | -- | 0.04 ppm |
| Particulate Matter ($PM_{10}$) | 24 Hour | 150 $\mu g/m^3$ | 50 $\mu g/m^3$ |
| | Mean | -- | 20 $\mu g/m^3$ |
| Particulate Matter (PM2.5) | 24 Hour | 35 $\mu g/m^3$ | -- |
| | Annual | 12 $\mu g/m^3$ | 12 $\mu g/m^3$ |
| Lead | 30-day | -- | 1.5 $\mu g/m$ |
| | Quarter | 1.5 $\mu g/m$ | -- |
| | 3-month average | 0.15 $\mu g/m$ | -- |
| Visibility reducing particles | 8 Hour | -- | 0.23/km extinction coefficient. (10-mile visibility standard) |
| Sulfates | 24 Hour | -- | 25 $\mu g/m$ |
| Vinyl chloride | 24 Hour | -- | 0.01 ppm |
| Hydrogen sulfide | 24 Hour | -- | 0.03 ppm |

[1] Source: USEPA: https://www.epa.gov/criteria-air-pollutants/naaqs-table and
CARB: https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards

[2] ppm = parts per million of air, by volume; µg/m3 = micrograms per cubic meter; Annual = Annual Arithmetic Mean; 30-day = 30-day average; Quarter = Calendar quarter.

[3] Secondary standards

Several pollutants listed in Table 4 are not addressed in this analysis. Lead is not included 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.

## 2.3 Attainment Status

The Clean Air Act requires states to prepare a State Implementation Plan (SIP) to ensure air quality meets the NAAQS. The California Air Resources Board (CARB) provides designations of attainment for air basins where AAQS are either met or exceeded. If the AAQS are met, the area is designated as being in "attainment", if the air pollutant concentrations exceed the AAQS, than the area is designated as being "nonattainment". If there is inadequate or inconclusive data to make a definitive attainment designation, the area is 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.

When a state submits a request to the EPA to re-designate a nonattainment area to attainment, the Clean Air Act (CAA) section 175A(a) requires that the state (or states, if the area is a multi-state area) submit a maintenance plan ensuring the area can maintain the air quality standard for which the area is to be re-designated for at least 10 years following the effective date of re-designation.

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

**Table 5**
**AVAQMD Attainment Designation[1]**

| Ambient Air Quality Standard | AVAQMD |
|---|---|
| One-hour Ozone (Federal) – standard has been revoked, this is historical information only | Proposed attainment in 2014; historical classification Severe-17 |
| Eight-hour Ozone (Federal 84 ppb (1997)) | Subpart 2 Nonattainment; classified Severe-15 |
| Eight-hour Ozone (Federal 75 ppb (2008)) | Nonattainment, classified Severe-15 |
| Eight-hour Ozone (Federal 70 ppb (2015)) | Expected nonattainment; classification to be determined |
| Ozone (State) | Nonattainment; classified Extreme |
| PM10 24-hour (Federal) | Unclassifiable/attainment |
| PM2.5 Annual (Federal) | Unclassified/attainment |
| PM2.5 24-hour (Federal) | Unclassified/attainment |
| PM2.5 (State) | Unclassified |
| PM10 (State) | Nonattainment |
| Carbon Monoxide (State and Federal) | Attainment |
| Nitrogen Dioxide (State and Federal) | Attainment/unclassified |
| Sulfur Dioxide (State and Federal) | Attainment/unclassified |
| Lead (State and Federal) | Attainment |
| Particulate Sulfate (State) | Unclassified |
| Hydrogen Sulfide (State) | Unclassified |
| Visibility Reducing Particles (State) | Unclassified |

[1] Source: Antelope Valley AQMD CEQA and Federal Conformity Guidelines, August 2016.

## 2.4 Antelope Valley Air Quality Management District (AVAQMD)

Air districts have the primary responsibility to control air pollution from all sources other than those directly emitted from motor vehicles, which are the responsibility of the CARB and the EPA. Air districts adopt and enforce rules and regulations to achieve State and Federal ambient air quality standards and enforce applicable State and Federal law.

The AVAQMD has jurisdiction over the northern, desert portion of Los Angeles County. This region includes the incorporated cities of Lancaster and Palmdale, Air Force Plant 42, and the southern portion of Edwards Air Force Base. The Kern County-Los Angeles County boundary forms the northern boundary of the AVAQMD; the San Bernardino-Los Angeles County boundary forms the eastern boundary.

The AVAQMD has prepared CEQA and Federal Conformity guidelines to provide direction on the preferred analysis approach in preparing environmental analysis or document

review. The guidelines characterize the topography and climate of the Basin, defines cumulative impacts, and provide emission thresholds for construction and operation.

The AVAQMD adopted the Ozone Attainment Plan in 2004 to develop the methods and reduction measures to ensure applicable ozone attainment goals and standards are met for the area. The attainment plan focuses on pollutants including NOX and VOCs.

The AVAQMD has primary responsibility for regulating stationary sources of air pollution situated within its jurisdictional boundaries. To this end, the AVAQMD implements air quality programs required by state and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their role in protecting air quality.[2] The District maintains a set of Rules and Regulations to improve air quality and maintain good air quality (www.avaqmd.ca.gov), including the following rules:

- Rule 401, Visible Emissions. This rule specifies that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

  (A) As dark or darker in shade as that designated No. 1 on the Ringelman Chart, as published by the United States Bureau of Mines; or

  (B) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (b)(1)(A) of the rule.

- Rule 403, Fugitive Dust. The purpose of this rule is to reduce the amount of Particulate Matter entrained in the ambient air as a result of man-made Fugitive Dust sources by requiring actions to prevent, reduce or mitigate Fugitive Dust emissions. The rule specifies requirements for active operation of construction, excavation, extraction and other earth-moving activities, demolition, and bulk storage or materials.

- Rule 402, Nuisance. Rule 402 states that a person shall not discharge from any source whatsoever such quantities of contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or that endanger the comfort, repose, health, or safety of such persons or the public or that cause or have a natural tendency to cause injury or damage to business or property.

[2] Antelope Valley AQMD CEQA and Federal Conformity Guidelines, August 2016

The proposed Project will comply with all applicable AVAQMD rules during both the operational and construction phases of the Project.

## 2.5 Local Climate and Meteorology

The project site is located within the Mojave Desert Air Basin (MDAB), which includes the desert portions of Los Angeles and San Bernardino Counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. The MDAB is classified as a dry-hot desert climate (BWh), with portions classified as dry-very hot desert (BWhh), to indicate at least three months have maximum average temperatures over 100.4° F. Prevailing winds in the MDAB are out of the west and southwest. The MDAB primarily contains pollutants from other air basins, dust raised by construction, travel on unpaved roads, and paved roads with silty debris.

The weather station closest to the project site is a National Weather Service Cooperative weather station located at Palmdale, California, (046624). Climatological data from the National Weather Service at this station is summarized in Table 6.

**Table 6**
**Meteorological Summary[1]**

| Month | Average Temperature (˚F) | | | Mean Precipitation (inches) |
|---|---|---|---|---|
| | Max. | Min. | Mean | |
| January | 58.5 | 32.4 | 45.5 | 1.46 |
| February | 62.1 | 35.6 | 48.9 | 1.53 |
| March | 67.4 | 39.2 | 53.3 | 1.24 |
| Total | 74.0 | 44.0 | 59.0 | 0.48 |
| May | 81.9 | 51.0 | 66.5 | 0.14 |
| June | 90.2 | 58.0 | 74.1 | 0.03 |
| July | 97.6 | 65.3 | 81.5 | 0.05 |
| August | 97.0 | 64.0 | 80.5 | 0.15 |
| September | 91.5 | 57.7 | 74.6 | 0.18 |
| October | 80.2 | 48.1 | 64.2 | 0.33 |
| November | 67.3 | 38.1 | 52.7 | 0.67 |
| December | 58.7 | 32.7 | 45.7 | 1.36 |
| **Annual** | **77.2** | **47.2** | **62.2** | **7.61** |

[1] Source: Western Regional Climate Center 2016-2019. Averages derived from measurements recorded between 1903 and 2016 at Palmdale Station, (046624).

## 2.6 Local Air Quality

CARB sets State air quality standards and monitors ambient air quality at approximately 250 air monitoring stations across the State. Air quality monitoring stations usually measure pollutant concentrations 10 feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations. Ambient air pollutant concentrations in the Basin are measured at ten air quality-monitoring stations operated by the CARB and AVAQMD.

The nearest air monitoring station to the project site is the Division Street monitoring station, located at 43301 Division Street, in the City of Lancaster.

Table 7 summarizes the published air quality monitoring data from 2019 through 2021, which is the most recent 3-year period available. These pollutant levels were used to comprise a "background" for the project location and existing local air quality. Criteria pollutants such as carbon monoxide and sulfur dioxide has not been monitored at the Lancaster-43301 Division Street.

## Table 7
## Local Air Quality

| Air Pollutant Location | Averaging Time | Item | 2019 | 2020 | 2021 |
|---|---|---|---|---|---|
| **Carbon Monoxide** -- Lancaster-43301 Division Street | 1 Hour | Max 1-Hour (ppm) | -- | -- | -- |
| | | Exceeded State Standard (20 ppm) | -- | -- | -- |
| | | Exceeded National Standard (35 ppm) | -- | -- | -- |
| | 8 Hour | Max 8 Hour (ppm) | -- | -- | -- |
| | | Exceeded State Standard (9 ppm) | -- | -- | -- |
| | | Exceeded National Standard (9 ppm) | -- | -- | -- |
| **Ozone** -- Lancaster-43301 Division Street | 1 Hour | Max 1-Hour (ppm) | 0.096 | 0.099 | 0.086 |
| | | Days > State Standard (0.10 ppm) | 1 | 4 | 0 |
| | 8 Hour | Max 8 Hour (ppm) | 0.082 | 0.084 | 0.080 |
| | | Days > State Standard (0.07 ppm) | 14 | 8 | 4 |
| | | Days >National Standard (0.070 ppm) | 13 | 8 | 3 |
| **Nitrogen Dioxide** -- Lancaster-43301 Division Street | 1 Hour | Max 1-Hour (ppm) | -- | -- | -- |
| | | Exceeded State Standard (0.05 ppm) | -- | -- | -- |
| | Annual | Annual Average (ppm) | -- | -- | -- |
| | | Exceeded >State Standard (0.030 ppm) | -- | -- | -- |
| | | Exceeded >National Standard (0.053 ppm) | -- | -- | -- |
| **Sulfur Dioxide** -- Lancaster-43301 Division Street | 1 Hour | Max 1 Hour (ppm) | -- | -- | -- |
| | | Exceed State Standard (0.25 ppm) | -- | -- | -- |
| | | Exceed National Standard (0.075 ppm) | -- | -- | -- |
| **Coarse Particles (PM10)** -- Lancaster-43301 Division Street | 24 Hour | Max 24-Hour ($\mu g/m^3$) | 165.1 | 192.3 | 411.2 |
| | | Days > State Standard (50 $\mu g/m^3$) | -- | -- | -- |
| | | Days >National Standard (150 $\mu g/m^3$) | 2.1 | 1.1 | 1.0 |
| | Annual | Annual Average ($\mu g/m^3$) | 22.5 | 30.6 | 29.6 |
| | | Exceeded State Standard (20 $\mu g/m^3$) | Yes | Yes | Yes |
| **Fine Particulates (PM2.5)** -- Lancaster-43301 Division Street | 24 Hour | Max 24-Hour ($\mu g/m^3$) | 13.6 | 74.7 | 35.7 |
| | | Days >National Standard (35 $\mu g/m^3$) | 0.0 | 9.0 | 1.0 |
| | Annual | Annual Average ($\mu g/m^3$) | 6.1 | 9.3 | 8.1 |
| | | Exceeded State Standard (12 $\mu g/m^3$) | No | No | No |
| | | Exceeded National Standard (15 $\mu g/m^3$) | No | No | No |

Source: https://www.arb.ca.gov/adam
$\mu g/m^3$ = micrograms per cubic meter
ARB = California Air Resource Board
EPA= Environmental Protection Agency
ppm = part per million
(- -) = Data not provided

# 3.0 Global Climate Change Setting

Global climate change is the change in the average weather of the earth that is measured by such things as alterations in temperature, wind patterns, storms, and precipitation. Current data shows that the recent period of warming is occurring more rapidly than past geological events. The average global surface temperature has increased by approximately 1.4° Fahrenheit since the early 20th Century. 1.4° Fahrenheit may seem like a small change, but it's an unusual event in Earth's recent history, and as we are seeing, even small changes in temperature can cause enormous changes in the environment.

The planet's climate record, preserved in tree rings, ice cores, and coral reefs, shows that the global average temperature has been stable over long periods of time. For example, at the end of the last ice age, when the Northeast United States was covered by more than 3,000 feet of ice, average global temperatures were only 5° to 9° Fahrenheit cooler than today. The Intergovernmental Panel on Climate Change (IPCC), which includes more than 1,300 scientists from the United States and other countries, forecasts a temperature rise of 2.5° to 10° Fahrenheit over the next century. Therefore, significant changes to the environment are expected in the near future.

The consequences of global climate change include more frequent and severe weather, worsening air pollution by increasing ground level ozone, higher rates of plant and animal extinction, more acidic and oxygen depleted oceans, strain on food and water resources, and threats to densely populated coastal and low lying areas from sea level rise.

The impacts of climate change are already visible in the Southwest United States. In California, the consequences of climate change include;

- A rise in sea levels resulting in the displacement of coastal businesses and residencies
- A reduction in the quality and supply of water from the Sierra snowpack
- Increased risk of large wildfires
- Exacerbation of air quality problems
- Reductions in the quality and quantity of agricultural products
- An increased temperature and extreme weather events
- A decrease in the health and productivity of California's forests

## 3.1 Greenhouse Gases

Most scientists agree the main cause of the current global warming trend is anthropogenic (human-induced) augmentation of the greenhouse effect. The greenhouse effect refers to the way gases in the earth's atmosphere trap and re-emits long wave infrared radiation, acting like a blanket insulating the earth. Activities such as fossil fuel combustion, industrial processes, agriculture, and waste decomposition have elevated the concentration of greenhouse gases in the atmosphere beyond the level of naturally occurring concentrations.

GHGs comprise less than 0.1 percent of the total atmospheric composition, yet they play an essential role in influencing climate. Greenhouse gases include naturally occurring compounds such as carbon dioxide ($CO_2$), methane ($CH_4$), water vapor ($H_2O$), and nitrous oxide ($N_2O$), while others are synthetic. Man-made GHGs include the chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs), as well as sulfur hexafluoride ($SF_6$). Different GHGs have different effects on the Earth's warming. GHGs differ from each other in their ability to absorb energy (their "radiative efficiency") and how long they stay in the atmosphere, also known as the "lifetime".

The Global Warming Potential (GWP) was developed to allow comparisons of the global warming impacts of different gases. Specifically, it is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of $CO_2$. The larger the GWP, the more that a given gas warms the Earth compared to $CO_2$ over that time period. The time period usually used for GWPs is 100 years. GWPs provide a common unit of measure, which allows analysts to add up emissions estimates of different gases and allows policymakers to compare emissions reduction opportunities across sectors and gases.

Table 8 lists the 100-year GWP of GHGs from the Intergovernmental Panel on Climate Change (IPCC) fourth assessment report (AR4).

**Table 8**
**Global Warming Potential of Greenhouse Gases[1, 2]**

| Gas Name | Formula | Lifetime (years) | GWP |
|---|---|---|---|
| Carbon Dioxide | $CO_2$ | | 1 |
| Methane | $CH_4$ | 12 | 25 |
| Nitrous Oxide | $N_2O$ | 114 | 298 |
| Sulphur Hexafluoride | $SF_6$ | 3200 | 22,800 |
| Nitrogen Trifluoride | $NF_3$ | 740 | 17,200 |
| Hexafluoroethane (PFC-116) | $C_2F_6$ | 10,000 | 12,200 |
| Octafluoropropane (PFC-218) | $C_3F_8$ | 2,600 | 8,830 |
| Octafluorocyclobutane (PFC-318) | $C_4F_8$ | 3,200 | 10,300 |
| Tetrafluoromethane (PFC-14) | $CF_4$ | 50,000 | 7,390 |
| Hydrofluorocarbon 125 | HFC-125 | 29 | 3,500 |
| Hydrofluorocarbon 134a | HFC-134a | 14 | 1,430 |
| Hydrofluorocarbon 143a | HFC-143a | 52 | 4,470 |
| Hydrofluorocarbon 152a | HFC-152a | 1 | 124 |
| Hydrofluorocarbon 227ea | HFC-227ea | 34 | 3,220 |
| Hydrofluorocarbon 23 | HFC-23 | 270 | 14,800 |
| Hydrofluorocarbon 236fa | HFC-236fa | 240 | 9,810 |
| Hydrofluorocarbon 245fa | HFC-245fa | 8 | 1,030 |
| Hydrofluorocarbon 32 | HFC-32 | 5 | 675 |
| Hydrofluorocarbon 365mfc | HFC-365mfc | 9 | 794 |
| Hydrofluorocarbon 43-10mee | HFC-43-10mee | 16 | 1,640 |

[1] Source: IPCC Fourth Assessment Report (AR4)
[2] GWPs are used to convert GHG emission values to "carbon dioxide equivalent" ($CO_2e$) units

## 3.2 GHG Regulatory Setting – State of California

The State of California has been a leader in climate change legislation and has passed numerous bills to reduce greenhouse gas emissions across all sectors of the economy.

Key California legislation includes the landmark California Global Warming Solutions Act of 2006 [Assembly Bill 32 (AB 32)], which created a comprehensive, multi-year program to reduce greenhouse gas (GHG) emissions in California. AB 32 required the CARB to develop a Scoping Plan that describes the approach California will take to reduce GHGs. The Scoping Plan must be updated at least every five years.

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279.[3]

Other notable legislation includes Senate Bill (SB) 375, the Sustainable Communities & Climate Protection Act of 2008, which requires the Air Resources Board to develop regional greenhouse gas emission reduction targets for passenger vehicles GHG reduction targets for 2020 and 2035 for each region covered by the State's 18 metropolitan planning organizations.

## 3.3 GHG Emissions Inventory

Table 9 shows the latest GHG emission inventories at the national, state, regional and local levels.

**Table 9**
**GHG Emissions Inventory[1]**

| United States (2016)[2] | State of California (2016)[3] | SCAG (2008)[4] | City of Palmdale[5] |
|---|---|---|---|
| 6,511 $MMTCO_2e$ | 429 $MMTCO_2e$ | 230.7 $MMTCO_2e$ | 0.948250 $MMTCO_2e$ |

[1] $MMTCO_2e$ = Million Metric Tons of Carbon Dioxide Equivalent
[2] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[3] https://www.arb.ca.gov/cc/inventory/data/data.htm
[4] http://www.scag.ca.gov/programs/Pages/GreenhouseGases.aspx
[5] https://cityofpalmdale.org/DocumentCenter/View/195/Palmdale-Energy-Action-Plan-PEAP-PDF

[3] California Air Resources Board. 2022 Scoping Plan Documents. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents

# 4.0 Modeling Parameters and Assumptions

The California Emissions Estimator Model Version 2022.1.1 (CalEEMod) was used to calculate criteria air pollutants and GHG emissions from the construction and operation of the project. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria air pollutant and GHG emissions.

The model quantifies direct emissions from construction and operation activities (including vehicle use), as well as indirect emissions, such as GHG emissions from off-site energy generation, solid waste disposal, vegetation planting and/or removal, and water use. The model also identifies mitigation measures to reduce criteria pollutant and GHG emissions. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts.

## 4.1 Construction Assumptions

Construction activities are expected to consist of site preparation, grading, building construction, paving, and architectural coating. The project site is expected to import approximately 79,421 cubic yards of earthwork material during grading phase.

The project proposes to complete its construction in three phases, depending on market conditions. To be conservative, this report analyzes emissions from all construction activity in one phase. The project's construction schedule has been adjusted in CalEEMod to meet the project's 2024 opening year timeframe.

The CalEEMod default construction equipment list is based on survey data and the size of the site. The parameters used to estimate construction emissions, such as the worker, vendor and hauling trips and trip lengths, utilize the CalEEMod defaults.

Standard dust control measures, in accordance with AVAQMD Rule 403, have been incorporated into the project design and are reflected in the CalEEMod emissions analysis. Standard dust control measures include such things as using soil stabilizers on unpaved roads, replacing ground cover of disturbed areas, watering exposed areas, and limiting vehicle speeds.

## 4.2 Operational Assumptions

Operational emissions occur over the life of the project and are considered "long-term" sources of emissions. Operational emissions include both direct and indirect sources. This section briefly describes the operational sources of emissions analyzed for the project.

### 4.2.1 Mobile Source Emissions

Mobile source emissions are the largest source of long-term air pollutants from the operation of the project. Mobile sources are direct sources of project emissions that are primarily attributed to tailpipe exhaust and road dust (tire, brake, clutch, and road surface wear) from motor vehicles traveling to and from the site.

Estimates of mobile source emissions require information on four parameters: trip generation, trip length, vehicle/fleet mix, and emission factors (quantity of emission for each mile traveled or time spent idling by each vehicle).

The trip generation rates for this project are referenced from the *Level of Service Deficiency and Vehicle Miles Traveled Analysis*, performed by DAVID EVANS AND ASSOCIATES, INC., December 2022.

The Emission Factors (EMFAC) 2021 model is used to estimate the mobile source emissions are embedded in the CalEEMod emissions model. No adjustments have been made to default emission factors.

The project's total vehicle miles traveled is shown in the Table 10 for this project.

**Table 10**
**Operational Vehicle Miles Traveled[1]**

| Land Use | Annual Vehicle Miles Traveled (VMT) |
|---|---|
| General Heavy Industry | 1,633,693 |
| General Office Building | 1,818,196 |
| **Total** | **3,451,889** |

[1] CalEEMod Defaults

The operational vehicle fleet mix has been adjusted based on the *Level of Service Deficiency and Vehicle Miles Traveled Analysis*. The Air Quality/GHG analysis has assumed a vehicle mix of 78.6% passenger cars, 8.0% 2-axle trucks, 3.9% 3-axle trucks, and 9.5% 4-axle trucks for the industrial land uses on the project site. General Office land uses have been modeled using CalEEMod's default vehicle mix.

Tables 11 and 12 summarize the vehicle mixes used for this project.

**Table 11**
**General Heavy Industry Vehicle Mix[1]**

| YUY | Vehicle Mix (%) |
|---|---|
| Light Duty Automobile (LDA) | 46.24% |
| Light Duty Truck (LDTI) | 3.67% |
| Light Duty Truck (LDT2) | 14.26% |
| Medium Duty Truck (MDV) | 12.16% |
| Light Heavy Truck (LHD1) | 7.26% |
| Light Heavy Truck (LHD2) | 4.64% |
| Medium Heavy Truck (MHD) | 5.30% |
| Heavy Heavy Truck (HHD) | 4.20% |
| Other Bus (OBUS) | 0.00% |
| Urban Bus (UBUS) | 0.00% |
| Motorcycle (MCY) | 2.27% |
| School Bus (SBUS) | 0.00% |
| Motor Home (MH) | 0.00% |
| **Total** | **100.0%** |

[1] Adjusted fleet mix based on the *Level of Service Deficiency and Vehicle Miles Traveled Analysis,* performed by DAVID EVANS AND ASSOCIATES, INC., December 2022

**Table 12**
**General Office Building Vehicle Mix[1]**

| YUY | Vehicle Mix (%) |
|---|---|
| Light Duty Automobile (LDA) | 54.36% |
| Light Duty Truck (LDTI) | 4.31% |
| Light Duty Truck (LDT2) | 16.77% |
| Medium Duty Truck (MDV) | 14.29% |
| Light Heavy Truck (LHD1) | 3.30% |
| Light Heavy Truck (LHD2) | 0.92% |
| Medium Heavy Truck (MHD) | 1.22% |
| Heavy Heavy Truck (HHD) | 0.96% |
| Other Bus (OBUS) | 0.06% |
| Urban Bus (UBUS) | 0.06% |
| Motorcycle (MCY) | 2.67% |
| School Bus (SBUS) | 0.30% |
| Motor Home (MH) | 0.77% |
| **Total** | **100.0%** |

[1] CalEEMod defaults.

### 4.2.2 Energy Source Emissions

Energy usage includes both direct and indirect sources of emissions. Direct sources of emissions include on-site natural gas usage (non-hearth) for heating, while indirect emissions include electricity generated by offsite power plants. Natural gas use is measured in units of a thousand British Thermal Units (kBTU) per size metric for each land use subtype and electricity use is measured in kilowatt hours (kWh) per size metric for each land use subtype.

CalEEMod divides building electricity and natural gas use into uses that are subject to Title 24 standards and those that are not. Lighting electricity usage is also calculated as a separate category in CalEEMod. For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24, such as space heating, space cooling, water heating, and ventilation. Non-Title 24 uses include all other end uses, such as appliances, electronics, and other miscellaneous plug-in uses. Because some lighting is not considered as part of the building envelope energy budget, and since a

separate mitigation measure is applicable to this end use, CalEEMod makes lighting a separate category.

For natural gas, uses are likewise categorized as Title 24 or Non-Title 24. Title 24 uses include building heating and hot water end uses. Non-Title 24 natural gas uses include cooking and appliances (including pool/spa heaters).

The baseline values are based on the California Energy Commission (CEC) sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS) studies.

Table 13 shows the total annual expected electricity and natural gas usage for the proposed project.

**Table 13**
**Electricity and Natural Gas Usage**

| Land Use | Electricity Usage[1] (KWhr/yr)[2] | Natural Gas Usage[1] (KBTU/yr)[2] |
|---|---|---|
| General Heavy Industry | 1,918,547.00 | 8,560,388.00 |
| General Office Building | 1,782,029.00 | 2,534,647.00 |
| Parking Lot | 419,363.00 | - |
| **Total** | **4,119,939** | **11,095,035** |

[1] CalEEMod default estimates.

[2] KWhr/yr = Kilowatt Hours per Year
KBTU/yr = Thousand British Thermal Units per Year

### 4.2.3 Area Source Emissions

Area source emissions are direct sources of emissions that fall under four categories: hearths, consumer products, architectural coatings, and landscaping equipment.

Consumer products are various solvents used in non-industrial applications which emit ROGs during their product use. These typically include cleaning supplies, kitchen aerosols, cosmetics and toiletries.

### 4.2.4 Other Sources of Operational Emissions

**Water.** Greenhouse gas emissions are generated from the upstream energy required to supply and treat the water used on the project site. Indirect emissions from water usage are counted as part of the project's overall impact. The estimated water usage for the project is reported in Table 15 and recommendations to reduce water usage are discussed in Section 6.0.

**Waste.** CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The program uses annual waste disposal rates from the California Department of Resources Recycling and Recovery (CalRecycle) data for individual land uses. The program quantifies the GHG emissions associated with the decomposition of the waste which generates methane based on the total amount of degradable organic carbon.

The estimated waste generation by the project is reported in Table 14.

**Table 14**
**Operational Water Usage and Waste Generation**

| Land Use | Water Usage (gallons/year) | | | Waste Generation (tons/year)[1] |
|---|---|---|---|---|
| | Indoor | Outdoor | Total | |
| General Heavy Industry | 46,250,000.00 | 1,121,701.00 | 47,371,701.00 | 248.00 |
| General Office Building | 17,773,375.00 | 700,408.00 | 18,473,783.00 | 93.00 |
| Parking Lot | - | 957,948.00 | 957,948.00 | - |
| **Total** | **64,023,375.00** | **2,780,057.00** | **66,803,432.00** | **341.00** |

[1] CalEEMod default estimates.

**Forklifts.** The use of natural gas-powered forklifts has been added as a source of operational emissions in CalEEMod. Per the *SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results*[4], dated June 2014, forklift usage was modeled based on a rate of 0.12 forklifts per thousand square feet of building area, totaling in 24 forklifts. For the purposes of this study, forklifts are conservatively assumed to operate for 8 hours per workday.

[4] South Coast Air Quality Management District. SCAQMD High Cube Warehouse Truck Trip Study White Paper Summary of Business Survey Results. June 2014. Page 9.

# 5.0 Significance Thresholds

The Antelope Valley AQMD California Environmental Quality Act (CEQA) and Federal Conformity Guidelines, August 2016, (AVAQMD Guidelines) establishes air quality and greenhouse gas emissions thresholds for purposes of determining whether a project may have a significant effect on the environment per Section 15002(g) of the Guidelines for implementing CEQA.

According to the AVAQMD Guidelines, any project is significant if it triggers or exceeds the most appropriate evaluation criteria. The District will clarify upon request which threshold is most appropriate for a given project; in general, the emissions comparison (criteria number 1) is sufficient:

1. Generates total emissions (direct and indirect) in excess of the thresholds given in Table 16.

2. Generates a violation of any ambient air quality standard when added to the local background[5].

3. Does not conform with the applicable attainment or maintenance plan(s).

4. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.

A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation.

Note that the emission thresholds are given as a daily value and an annual value, so that a multi-phased project (such as a project with a construction phase and a separate operational phase) with phases shorter than one year can be compared to the daily value.

Table 15 lists the significant emissions thresholds for AVAQMD.

[5] A project is deemed to not exceed this threshold, and hence not be significant, if it is consistent with the existing land use plan. Zoning changes, specific plans, general plan amendments and similar land use plan changes which do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold.

**Table 15**
**AVAQMD Significant Emissions Thresholds[1]**

| Pollutant | Annual Thresholds (tons/year) | Daily Thresholds (lbs/day) |
|---|---|---|
| Greenhouse Gases ($CO_2e$) | 100,000 | 548,000 |
| Carbon Monoxide (CO | 100 | 548 |
| Oxides of Nitrogen ($NO_x$) | 25 | 137 |
| Volatile Organic Compounds (VOC) | 25 | 137 |
| Oxides of Sulfur ($SO_x$) | 25 | 137 |
| Particulate Matter ($PM_{10}$) | 15 | 82 |
| Particulate Matter ($PM_{2.5}$) | 12 | 65 |
| Hydrogen Sulfide ($H_2S$) | 10 | 54 |
| Lead (Pb) | 0.6 | 3 |

[1] Source: AVAQMD CEQA and Federal Conformity Guidelines, August 2016

Lead is not included as part of this analysis as the project is not expected to emit lead in any significant measurable quantity and neither is Hydrogen Sulifide, as the project does not include oil or natural gas extraction and processing or geothermal fields, which are the common sources of hydrogen sulfide. Other sources of hydrogen sulfide include petrochemical plants, coke oven plants and kraft paper mills.[6]

[6] California Air Resources Board. Hydrogen Sulfide & Health. Website accessed November 2020. https://ww2.arb.ca.gov/resources/hydrogen-sulfide-and-health

# 6.0 Air Quality Impact Analysis

## 6.1 Criteria Air Pollutant Emissions

Criteria air pollutants during the construction and operation of the project are quantified using CalEEMod software and compared to the AVAQMD annual and daily thresholds of significance. The annual and daily emissions outputs are provided in Appendix A.

### 6.1.1 Construction Air Quality Emissions

Table 16 shows the annual tons per year (tons/year) of construction emissions and Table 17 shows daily pounds per day (lbs./day) of construction emissions generated by the project.

**Table 16**
**Annual Construction Air Quality Emissions (tons/year)**

| Year | VOC | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| 2023 | 0.13 | 1.53 | 1.34 | 0.01 | 0.28 | 0.11 |
| 2024 | 1.18 | 1.65 | 2.78 | 0.01 | 0.29 | 0.11 |
| **Maximum[1]** | **1.18** | **1.65** | **2.78** | **0.01** | **0.29** | **0.11** |
| AVAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 12 |
| **Exceeds Threshold (?)** | **No** | **No** | **No** | **No** | **No** | **No** |

[1] Maximum annual emissions includes both on-site and off-site emissions.

**Table 17**
**Daily Construction Air Quality Emissions (lbs./day)**

| Activity | VOC | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| Site Preparation | 4.07 | 39.82 | 37.48 | 0.05 | 2.04 | 1.71 |
| Grading | 4.42 | 71.65 | 40.89 | 0.28 | 14.43 | 5.75 |
| Building Construction | 1.96 | 14.40 | 26.01 | 0.03 | 2.51 | 1.01 |
| Paving | 2.99 | 7.91 | 11.08 | 0.01 | 0.59 | 0.41 |
| Architectural Coating | 134.27 | 1.06 | 2.82 | 0.01 | 0.33 | 0.10 |
| **Maximum[1]** | **134.27** | **71.65** | **40.89** | **0.28** | **14.43** | **5.75** |
| AVAQMD Daily Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| **Exceeds Threshold (?)** | **No** | **No** | **No** | **No** | **No** | **No** |

[1] Maximum daily emission during summer and winter; includes both on-site and off-site project emissions.

**The project's annual and daily construction emissions will be below the applicable AVAQMD thresholds of significance.**

### 6.1.2 Operational Air Quality Emissions

Table 18 shows the annual tons per year (tons/year) of operational emissions and Table 19 shows daily pounds per day (lbs./day) of operational emissions generated by the project.

**Table 18**
**Annual Operational Air Quality Emissions (tons/year)**

| Source | VOC | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| Mobile | 1.11 | 1.32 | 7.21 | 0.02 | 0.51 | 0.11 |
| Area | 1.46 | 0.01 | 1.17 | 0.01 | 0.01 | 0.01 |
| Energy | 0.03 | 0.54 | 0.46 | 0.01 | 0.04 | 0.04 |
| Water | -- | -- | -- | -- | -- | -- |
| Waste | -- | -- | -- | -- | -- | -- |
| Refrig. | -- | -- | -- | -- | -- | -- |
| Off-Road | -- | 2.75 | 27.50 | -- | -- | -- |
| **Total** | **2.60** | **4.62** | **36.34** | **0.04** | **0.56** | **0.16** |
| AVAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 12 |
| **Exceeds Threshold (?)** | **No** | **No** | **No** | **No** | **No** | **No** |

[1] Total annual emission includes both on-site and off-site sources.

**Table 19**
**Daily Operational Air Quality Emissions (lbs/day)**

| Source | VOC | $NO_x$ | CO | $SO_2$ | $PM_{10}$ | $PM_{2.5}$ |
|---|---|---|---|---|---|---|
| Mobile | 9.55 | 9.98 | 62.80 | 0.12 | 3.94 | 0.81 |
| Area | 9.11 | 0.11 | 13.00 | 0.01 | 0.02 | 0.02 |
| Energy | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | 0.23 |
| Water | -- | -- | -- | -- | -- | -- |
| Waste | -- | -- | -- | -- | -- | -- |
| Refrig. | -- | -- | -- | -- | -- | -- |
| Off-Road | -- | 21.20 | 211.00 | -- | -- | -- |
| **Total** | **18.82** | **34.27** | **289.30** | **0.15** | **4.19** | **1.06** |
| AVAQMD Threshold | 137 | 137 | 548 | 137 | 82 | 65 |
| **Exceeds Threshold (?)** | **No** | **No** | **No** | **No** | **No** | **No** |

[1] Maximum daily emission during summer or winter; includes both on-site and off-site project emissions.

**The project's annual and daily operational emissions will be below the applicable AVAQMD thresholds of significance.**

## 6.2 Fugitive Dust Control

The Project is required to comply with regional rules that assist in reducing short-term air pollutant emissions associated with suspended particulate matter, also known as fugitive dust. Fugitive dust emissions are commonly associated with land clearing activities, cut-and-fill grading operations, and exposure of soils to the air and wind. AVAQMD Rule 403 requires that fugitive dust is controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, AVAQMD Rules 403 require implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

To ensure compliance with the fugitive dust control measures and to reduce potential exposure of sensitive receptors to substantial pollution concentrations, the following mitigation measures are recommended during construction:

**AQ-1.** Per the requirements of AVAQMD Rule 403, the applicant shall submit a Dust Control Plan (DCP) to the Antelope Valley Air Quality Management District for review, and obtain approval, prior to initiating any grading or grubbing construction activity.

## 6.3 Toxic Air Contaminants

The primary source of toxic air contaminants (TACs) associated with the project would include diesel particulate matter (DPM) emitted from the use of diesel-powered construction equipment and on-road vehicles powered by diesel engines.

AVAQMD Guidelines indicates that a project may result in a significant impact if it exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.

The following project types proposed for sites within the specified distance to an existing or planned (zoned) sensitive receptor land use must be evaluated for potential exposure of substantial pollution concentrations.

- Any industrial project within 1,000 feet of a sensitive receptor.
- A distribution center (40 or more trucks per day) within 1,000 feet of a sensitive receptor.
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet of a sensitive receptor.
- A dry cleaner using perchloroethylene within 500 feet of a sensitive receptor.
- A gasoline dispensing facility within 300 feet of a sensitive receptor.

The proposed project will include industrial activities which have been identified by the AVAQMD as potentially significant generators of TACs that could cause the exposure of sensitive receptors to substantial pollutant concentrations. Although the project's southernmost boundary is located approximately 990 feet from the nearest residential sensitive receptors, the closest on-site industrial activity will occur at approximately 1,200 feet away. As the project's industrial activity is not located within 1,000 feet of the nearest sensitive receptors, the project's operational impact may be presumed to cause a less than significant impact without the need for further evaluation.

The project will also generate DPM during construction from off-road diesel equipment and trucks. Several mitigation measures are provided to help ensure the potential health risk associated with DPM during construction is reduced to the maximum extent feasible.

With the implementation of the recommended mitigation measures, the project's construction impact is considered less than significant.

The following design features are recommended during construction:

**AQ-2.** All construction equipment shall be maintained in proper tune.

**AQ-3.** All construction vehicles shall be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

**AQ-4.** Minimize the simultaneous operation of multiple construction equipment units.

**AQ-5.** All haul trucks shall be registered on-road vehicles that meet the latest emissions standards for operating in California.

**AQ-6.** Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

## 6.4 Odors

Odors are typically categorized as a nuisance and are regulated under AVAQMD Rule 402. Rule 402 requires that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants.

The proposed project does not contain land uses that would typically be associated with significant odor emissions. Hence, the project related odors are not expected to meet the criteria of being a nuisance and the impact is considered less than significant.

# 7.0 Greenhouse Gas Impact Analysis

## 7.1 Greenhouse Gas Emissions - Construction

Greenhouse gas emissions are estimated for on-site and off-site construction activity using CalEEMod. Table 20 shows the annual construction greenhouse gas emissions in metric tons of carbon dioxide equivalent (MTCO2e/year) and compares the results to the AVAQMD annual threshold of significance.

**Table 20**
**Annual Construction Greenhouse Gas Emissions**

| Year | Annual GHG Emissions ($MTCO_2e$/year)[1] |
|---|---|
| 2023 | 668 |
| 2024 | 599 |
| **Maximum** | **668** |
| AVAQMD Threshold[2] | 100,000 |
| **Exceeds Threshold?** | **No** |

[1] $MTCO_2e$/year = metric tons of carbon dioxide equivalents per year

Table 21 shows the daily construction greenhouse gas emissions in pounds per day of carbon dioxide equivalent (lbs. CO2e/day) and compares the results to the AVAQMD daily threshold of significance.

**Table 21**
**Daily Construction Greenhouse Gas Emissions**

| Year | Daily GHG Emissions (lbs. $CO_2e$/day)[1] |
|---|---|
| 2023 | 40,539 |
| 2024 | 5,712 |
| **Maximum** | **40,539** |
| AVAQMD Threshold[2] | 548,000 |
| **Exceeds Threshold?** | **No** |

[1] lbs. $CO_2e$/day = pounds of carbon dioxide equivalents per day
[2] Maximum emissions during summer and winter months.

**The project's annual and daily operational greenhouse gas emissions will be below the applicable AVAQMD thresholds of significance.**

## 7.2 Greenhouse Gas Emissions - Operation

Greenhouse gas emissions are estimated for on-site and off-site operational activity using CalEEMod. Greenhouse gas emissions from mobile sources, area sources and energy sources are shown in Table 22. CalEEMod report sheets are provided in Appendix A.

**Table 22**
**Annual Operational Greenhouse Gas Emissions**

| Emission Source | GHG Emissions ($MTCO_2e$/year)[1] |
|---|---|
| Area | 1,447.00 |
| Energy | 4.40 |
| Mobile | 1,588.00 |
| Waste | 179.00 |
| Water | 106.00 |
| Refrig. | 8.66 |
| Off-Road | 553.00 |
| **Total Annual Emissions** | **3,886.06** |
| AVAQMD Screening Threshold[2] | 100,000 |
| **Exceeds Threshold?** | **No** |

[1] $MTCO_2e$/year = metric tons of carbon dioxide equivalents per year

Table 23 shows the daily operational greenhouse gas emissions in pounds per day of carbon dioxide equivalent (lbs. CO2e/day) and compares the results to the AVAQMD daily threshold of significance.

**Table 23**
**Daily Operational Greenhouse Gas Emissions**

| Emission Source | GHG Emissions (lbs. $CO_2e$/day)[1] |
|---|---|
| Area | 12,969.0 |
| Energy | 53.8 |
| Mobile | 9,593.0 |
| Waste | 1,083.0 |
| Water | 643.0 |
| Refrigeration | 52.3 |
| Off-Road | 4,688.00 |
| **Total Daily Emissions** | **29,082.10** |
| AVAQMD Screening Threshold[2] | 100,000 |
| **Exceeds Threshold?** | **No** |

[1] lbs. $CO_2e$/day = pounds of carbon dioxide equivalents per day

**The project's annual and daily operational greenhouse gas emissions will be below the applicable AVAQMD thresholds of significance.**

The following recommended project design features are considered standard building code requirements and best practices that will be included in the project design to help further reduce GHG emissions.

**DF-7.** The project will comply with the mandatory requirements of the California Building Standards Code, Title 24, Part 6 (Energy Code) and Part 11 (CALGreen), including, but not limited to:

- Install low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.
- Provide the necessary infrastructure to support electric vehicle charging.

**DF-8.** Participate in the local waste management recycling and composting programs.

# 8.0 Energy Impact Analysis

## 8.1 Study Objectives

The purpose of this energy conservation analysis is to review the energy implications of the proposed PBP Industrial Project (project) and provide recommendations to reduce wasteful, inefficient, and unnecessary consumption of energy during construction and operation. This analysis has been prepared within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.).

CEQA Guidelines, Appendix F, Energy Conservation, describes the framework within which energy conservation should be analyzed. Conserving energy implies the wise and efficient use of energy through 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.

## 8.2 Utility Providers

The project will be served by the following utility providers, as shown in Table 24.

**Table 24**
**Utility Providers**

| Utility | Provider |
|---|---|
| Electricity | Southern California Edison |
| Natural Gas | Southern California Gas Company |

## 8.3 Summary of CEQA Impacts

Table 25 provides a summary of the project's impact on Energy resources, per the impact criteria described in CEQA Guidelines, Appendix G.

**Table 25**
**CEQA Energy Impact Criteria**

| Energy Impact Criteria | Potentially Significant | Less Than Significant with Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| *Would the project:* | | | | |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | | X | | |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | | | X | |

## 8.4 Energy Consumption

### 8.4.1 Electricity Consumption

The three (3) main types of energy expected to be consumed by the project include electricity, natural gas, and petroleum products in the form of gasoline and diesel fuel.

The California Emissions Estimator Model Version 2022.1.1 (CalEEMod) is used to calculate energy usage from project construction and operational activities.

The daily and annual CalEEMod calculation sheets for the project are provided in Appendix A.

The project will use electricity for many different operational activities including, but not limited to, building heating and cooling, lighting, appliances, electronics, mechanical equipment, and parking lot lighting. Indirect electricity usage will also be required to supply, distribute, and treat water and wastewater. Electricity will be provided to the site by Southern California Edison.

Temporary electricity usage for construction activities may include lighting, electric equipment and mobile office uses, however, CalEEMod does not calculate electricity usage during construction. Electricity usage during construction is expected to be short-term and relatively minor compared to the operational demand, and therefore electricity usage during construction is not counted in this analysis.

Table 26 shows the project's estimated operational electricity consumption in kilowatt-hours per year (kWh/year) and millions of Btu per year.

**Table 26**
**Project Electricity Consumption**

| Land Use/Activity | Electricity Consumption[1] | |
|---|---|---|
| | (kWhr/yr)[2] | (MBtu/yr)[2] |
| General Heavy Industry | 1,918,547.00 | 6,546.08 |
| General Office Building | 1,782,029.00 | 6,080.28 |
| Parking Lot | 419,363.00 | 1,430.87 |
| Water Supply and Treatment | 384,587.36 | 1,312.21 |
| Electric Vehicle Charging | 0.00 | 0.00 |
| **Total** | **4,504,526.36** | **15,369.44** |

[1] Source: CalEEMod Unmitigated Default.
[2] kWhr/yr = Kilowatt Hours per Year
MBtu/yr = Million British Thermal Units per Year

### 8.4.2 Natural Gas Consumption

The project will use natural gas for such things as building heating and cooling and gas water heaters. Natural gas is not expected to be used during construction in any significant quantities and is not included in the overall calculation of the project's natural gas consumption.

Table 27 shows the project's estimated operational natural gas consumption in millions of Btu per year.

**Table 27**
**Project Natural Gas Consumption**

| Land Use/Activity | Natural Gas Consumption[1] (MBtu/yr)[2] |
|---|---|
| General Heavy Industry | 8,560.39 |
| General Office Building | 2,534.65 |
| Parking Lot | - |
| **Total** | **11,095.04** |

[1] Source: CalEEMod Unmitigated Default.
[2] MBtu/yr = Millions of British Thermal Units per Year

### 8.4.3 Petroleum Consumption

The project's energy consumption from petroleum products is primarily associated with transportation-related activities. This includes gasoline and diesel fuel usage for auto and truck trips during construction and operation and off-road equipment usage during construction.

*Petroleum Consumption - Construction*

Construction of the project will consist of site preparation, grading, building construction, paving, and architectural coating phases. Construction activities will consume energy in the form of motor vehicle fuel (gasoline and diesel) for off-road construction equipment and on-road vehicle trips. Vehicle trips include workers and vendors traveling to and from the job site.

Table 28 shows the project's energy consumption for all off-road equipment during construction. For purposes of this analysis, all off-road equipment is assumed to run on diesel fuel. Table 29 shows the project's energy consumption from on-road vehicle trips during construction.

**Table 28**
**Construction Off-Road Equipment Energy Consumption**

| Phase[1] | Phase Duration (Days)[1] | Equipment[1] | Amount[1] | Hours/ Day[1] | Horspower (HP)[1] | Load Factor[1] | HP-hrs[2] | Fuel Consumption Rate[3] (hp-hr/gal) | Diesel Fuel Consumption (gal.) | Diesel Fuel Consumption by Phase (gal.) | MBtu[4] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Demolition** | 0 | Concrete/Industrial Saws | 1 | 8 | 81 | 0.73 | 0.0 | 18.5 | 0.0 | 0.0 | 0.000 |
| | | Excavators | 3 | 8 | 158 | 0.38 | 0.0 | | 0.0 | | |
| | | Rubber Tired Dozers | 2 | 8 | 247 | 0.40 | 0.0 | | 0.0 | | |
| **Site Preparation** | 7 | Rubber Tired Dozers | 3 | 8 | 367 | 0.40 | 24,662.4 | | 1,333.1 | 1,709.4 | 234.842 |
| | | Tractors/Loaders/ Backhoes | 4 | 8 | 84 | 0.37 | 6,961.9 | | 376.3 | | |
| **Grading** | 28 | Excavators | 2 | 8 | 36 | 0.38 | 6,128.6 | | 331.3 | 8,513.0 | 1,169.520 |
| | | Graders | 1 | 8 | 148 | 0.41 | 13,592.3 | | 734.7 | | |
| | | Rubber Tired Dozers | 1 | 8 | 367 | 0.40 | 32,883.2 | | 1,777.5 | | |
| | | Scrapers | 2 | 8 | 423 | 0.48 | 90,961.9 | | 4,916.9 | | |
| | | Tractors/Loaders/ Backhoes | 2 | 8 | 84 | 0.37 | 13,923.8 | | 752.6 | | |
| **Building Construction** | 286 | Cranes | 1 | 7 | 367 | 0.29 | 213,072.9 | | 11,517.5 | 31,533.7 | 4,332.137 |
| | | Forklifts | 3 | 8 | 82 | 0.20 | 112,569.6 | | 6,084.8 | | |
| | | Generator Sets | 1 | 8 | 14 | 0.74 | 23,703.7 | | 1,281.3 | | |
| | | Tractors/Loaders/ Backhoes | 3 | 7 | 84 | 0.37 | 186,666.5 | | 10,090.1 | | |
| | | Welders | 1 | 8 | 46 | 0.45 | 47,361.6 | | 2,560.1 | | |
| **Paving** | 14 | Pavers | 2 | 8 | 81 | 0.42 | 7,620.5 | | 411.9 | 965.5 | 132.641 |
| | | Paving Equipment | 2 | 8 | 89 | 0.36 | 7,177.0 | | 387.9 | | |
| | | Rollers | 2 | 8 | 36 | 0.38 | 3,064.3 | | 165.6 | | |
| **Architectural Coating** | 14 | Air Compressors | 1 | 6 | 37 | 0.48 | 1,491.8 | | 80.6 | 80.6 | 11.078 |
| | | | | | | | | **Total Energy Requirements** | | **42,802.3** | **5,880.218** |

[1] Source: CalEEMod Defaults (CalEEMod v.2022.1.1)

[2] HP-hrs = Horsepower Hours.

[3] Source: Carl Moyer Program Guidelines. 2017 Revisions. Table D-21. https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm

[4] Mbtu = Millions of Btu; assuming 1 gallon of diesel fuel = 137,381 Btu.

**Table 29**
**Construction On-Road Trips Energy Consumption**

| Construction Phase[1] | Phase Duration (Days)[1] | Trips /Day[1] | Trip Length[1] | Phase VMT | Vehicle Class[1] | Vehicle Mix[1] | Average Fuel Economy (MPG)[2] | Gasoline | | | Diesel | | | Total MBtu[3] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel Split[2] | Fuel Consumption by Veh. Class (gal.) | Fuel Consumption by Phase (gal.) | Fuel Split[2] | Fuel Consumption by Veh. Class (gal.) | Fuel Consumption by Phase | |
| **Worker Trips** | | | | | | | | | | | | | | |
| Site Preparation | 7 | 17.5 | 18.5 | 2,266 | LDA | 0.50 | 29.72 | 0.9978 | 38.04 | | 0.0022 | 0.08 | | |
| | | | | | LDT1 | 0.25 | 24.64 | 0.9997 | 22.98 | 84.46 | 0.0003 | 0.01 | 0.14 | 10.19 |
| | | | | | LDT2 | 0.25 | 24.12 | 0.9979 | 23.44 | | 0.0021 | 0.05 | | |
| Grading | 28 | 20 | 18.5 | 10,360 | LDA | 0.50 | 29.72 | 0.9978 | 173.92 | | 0.0022 | 0.39 | | |
| | | | | | LDT1 | 0.25 | 24.64 | 0.9997 | 105.07 | 386.12 | 0.0003 | 0.03 | 0.64 | 46.59 |
| | | | | | LDT2 | 0.25 | 24.12 | 0.9979 | 107.14 | | 0.0021 | 0.22 | | |
| Building Construction | 286 | 116 | 18.5 | 613,756 | LDA | 0.50 | 29.72 | 0.9978 | 10,303.51 | | 0.0022 | 23.01 | | |
| | | | | | LDT1 | 0.25 | 24.64 | 0.9997 | 6,224.47 | 22,875.00 | 0.0003 | 1.82 | 38.15 | 2,760.05 |
| | | | | | LDT2 | 0.25 | 24.12 | 0.9979 | 6,347.02 | | 0.0021 | 13.32 | | |
| Paving | 14 | 15 | 18.5 | 3,885 | LDA | 0.50 | 29.72 | 0.9978 | 65.22 | | 0.0022 | 0.15 | | |
| | | | | | LDT1 | 0.25 | 24.64 | 0.9997 | 39.40 | 144.80 | 0.0003 | 0.01 | 0.24 | 17.47 |
| | | | | | LDT2 | 0.25 | 24.12 | 0.9979 | 40.18 | | 0.0021 | 0.08 | | |
| Architectural Coating | 14 | 23 | 18.5 | 6,009 | LDA | 0.50 | 29.72 | 0.9978 | 100.87 | | 0.0022 | 0.23 | | |
| | | | | | LDT1 | 0.25 | 24.64 | 0.9997 | 60.94 | 223.95 | 0.0003 | 0.02 | 0.37 | 27.02 |
| | | | | | LDT2 | 0.25 | 24.12 | 0.9979 | 62.14 | | 0.0021 | 0.13 | | |
| Sub-Total Worker Trips Energy Consumption | | | | | | | | | Gasoline (gal.) | 23,714.34 | | Diesel (gal.) | 39.54 | 2,861.32 |
| **Vendor Trips** | | | | | | | | | | | | | | |
| Building Construction | 286 | 49 | 10.2 | 143,526 | MHDT | 0.50 | 8.40 | 0.2425 | 2,072.87 | 2,073.85 | 0.7575 | 6,474.70 | 17,752.54 | 2,688.61 |
| | | | | | HHDT | 0.50 | 6.36 | 0.0001 | 0.99 | | 0.9999 | 11,277.85 | | |
| **Hauling Trips** | | | | | | | | | | | | | | |
| Grading | 28 | 467 | 20.0 | 261,520 | HHDT | 1.00 | 6.36 | 0.0001 | 3.60 | 3.60 | 0.9999 | 41,098.86 | 41,098.86 | 5,646.64 |
| **Total On-Road Construction Trips Energy Consumption** | | | | | | | | | **Gasoline (gal.)** | **25,791.79** | | **Diesel (gal.)** | **58,890.94** | **11,196.57** |

[1] Source: CalEEMod Defaults (CalEEMod v.2022.1.1)

[2] Source: EMFAC2017 Web Database. https://www.arb.ca.gov/emfac/2017/. (See Appendix B for more details.)

[3] Mbtu = Millions of Btu; assuming 1 gallon of gasoline fuel = 120,429 Btu and 1 gallon of diesel fuel = 137,381 Btu

*Petroleum Consumption - Operation*

The project is expected to consume energy from auto and truck trips generated by the proposed land uses. Operational vehicle trips are associated with workers, customers, and vendors/non-workers (i.e., delivery, service, maintenance vehicles, etc.) traveling to and from the site. EMFAC2021 vehicle fuel consumption data is provided in Appendix B.

Tables 30 and 31 show the project's petroleum energy consumption for the project's general heavy industry trip generation and general office building trip generation, respectively.

## Table 30
## Annual Operational Trips Energy Consumption - General Heavy Industry

| Vehicle Class | Vehicle Mix | Average Fuel Economy (MPG) | Annual VMT | Gasoline | | Diesel | | MBtu |
|---|---|---|---|---|---|---|---|---|
| | | | | Fuel Split | Fuel Consumption (gal.) | Fuel Split | Fuel Consumption (gal.) | |
| LDA | 46.24% | 29.72 | | 0.9978 | 25,363.48 | 0.0022 | 56.65 | 3,062.28 |
| LDT1 | 3.67% | 24.64 | | 0.9997 | 2,429.51 | 0.0003 | 0.71 | 292.68 |
| LDT2 | 14.26% | 24.12 | | 0.9979 | 9,638.64 | 0.0021 | 20.23 | 1,163.55 |
| MDV | 12.16% | 19.49 | | 0.9869 | 10,058.29 | 0.0131 | 133.61 | 1,229.67 |
| LHD1 | 7.26% | 16.15 | | 0.6406 | 4,703.12 | 0.3594 | 2,638.20 | 928.83 |
| LHD2 | 4.64% | 15.89 | | 0.3247 | 1,550.03 | 0.6753 | 3,224.18 | 629.61 |
| MHD | 5.30% | 8.40 | 1,633,693 | 0.2425 | 2,503.18 | 0.7575 | 7,818.80 | 1,375.61 |
| HHD | 4.20% | 6.36 | | 0.0001 | 0.94 | 0.9999 | 10,771.35 | 1,479.89 |
| OBUS | 0.00% | 5.87 | | 0.5736 | 0.00 | 0.4264 | 0.00 | 0.00 |
| UBUS | 0.00% | 6.55 | | 0.0000 | 0.00 | 1.0000 | 0.00 | 0.00 |
| MCY | 2.27% | 41.67 | | 1.0000 | 890.76 | 0.0000 | 0.00 | 107.27 |
| SBUS | 0.00% | 8.21 | | 0.3362 | 0.00 | 0.6638 | 0.00 | 0.00 |
| MH | 0.00% | 5.72 | | 0.8594 | 0.00 | 0.1406 | 0.00 | 0.00 |
| Total Operational Trips Energy Usage | | | | Gasoline Consumption (gal.) | 57,137.95 | Diesel Consumption (gal.) | 24,663.73 | 10,269.39 |

## Table 31
## Annual Operational Trips Energy Consumption - General Office Building

| Vehicle Class | Vehicle Mix | Average Fuel Economy (MPG) | Annual VMT | Gasoline | | Diesel | | MBtu |
|---|---|---|---|---|---|---|---|---|
| | | | | Fuel Split | Fuel Consumption (gal.) | Fuel Split | Fuel Consumption (gal.) | |
| LDA | 0.54 | 29.72 | | 0.9978 | 29,818.24 | 0.0022 | 66.60 | 3,600.13 |
| LDT1 | 0.04 | 24.64 | | 0.9997 | 2,856.23 | 0.0003 | 0.83 | 344.09 |
| LDT2 | 0.17 | 24.12 | | 0.9979 | 11,331.54 | 0.0021 | 23.78 | 1,367.91 |
| MDV | 0.14 | 19.49 | | 0.9869 | 11,824.90 | 0.0131 | 157.08 | 1,445.64 |
| LHD1 | 0.03 | 16.15 | | 0.6406 | 2,138.27 | 0.3594 | 1,199.45 | 422.29 |
| LHD2 | 0.01 | 15.89 | | 0.3247 | 306.29 | 0.6753 | 637.10 | 124.41 |
| MHD | 0.01 | 8.40 | 1,818,196 | 0.2425 | 575.64 | 0.7575 | 1,798.02 | 316.34 |
| HHD | 0.01 | 6.36 | | 0.0001 | 0.22 | 0.9999 | 2,477.00 | 340.32 |
| OBUS | 0.00 | 5.87 | | 0.5736 | 102.03 | 0.4264 | 75.84 | 22.71 |
| UBUS | 0.00 | 6.55 | | 0.0000 | 0.00 | 1.0000 | 158.76 | 21.81 |
| MCY | 0.03 | 41.67 | | 1.0000 | 1,047.21 | 0.0000 | 0.00 | 126.11 |
| SBUS | 0.00 | 8.21 | | 0.3362 | 200.26 | 0.6638 | 395.33 | 78.43 |
| MH | 0.01 | 5.72 | | 0.8594 | 1,881.38 | 0.1406 | 307.75 | 268.85 |
| Total Operational Trips Energy Usage | | | | Gasoline Consumption (gal.) | 62,082.21 | Diesel Consumption (gal.) | 7,297.54 | 8,479.04 |

### 8.4.4 Summary of Operational Energy Consumption

Table 32 provides a summary of the project's annual operational energy consumption.

**Table 32**
**Annual Operational Energy Consumption**

| Activity | Energy Consumption (MBtu/yr)[1] |
|---|---|
| Electricity | 15,369.44 |
| Natural Gas | 11,095.04 |
| Petroleum | 18,748.44 |
| **Total Annual Operational Energy Consumption** | **45,212.92** |

[1] MBtu/yr = Millions of Btu per year. Operational activities only.

## 8.5 Energy Impact Analysis

This qualitative analysis has been prepared within the context of the CEQA Guidelines, Appendix F, Energy Conservation, and Appendix G, Environmental Checklist Form. According to CEQA, the goal of conserving energy implies the wise and efficient use of energy through 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.

A significant environmental impact would result if the project would;

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation, or;

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

### 8.5.1 Energy Impact - 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?*

The project will implement the mandatory requirements of California's Building Efficiency Standards (Title 24, Part 6) to reduce energy consumption. California's building standards are some of the strictest in the nation and the project's compliance with the Building Code will ensure that wasteful, inefficient or unnecessary consumption of energy is minimized. The California Building Code is designed to reduce the amount of energy needed to heat or cool a building, reduce energy usage for lighting and appliances and promote usage of energy from renewable sources.

In particular, the project is expected to comply with Section 110.10 of the building code regarding mandatory requirements for solar readiness and provide a rooftop solar zone.

However, recent court rulings indicate that when determining if a project would have a potentially significant impact to energy conservation, the analysis should consider whether any renewable energy features could be incorporated into the project[7].

Therefore, to ensure the project provides a source of renewable energy, the following mitigation measure is recommended.

**Energy-1** The project shall include rooftop solar panels or other sources of on-site renewable energy that will meet the energy needs of each project building.

With the implementation of the recommended mitigation measure, **the project impact is considered less than significant.**

### 8.5.2 Energy Impact - B

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

The project is not expected to conflict with or obstruct a state or local plan for renewable energy or energy efficiency. The project will purchase electricity through Southern

[7] *League to Save Lake Tahoe Mountain Area Preservation Foundation, et al. v. County of Placer, et al.*

California Edison which is subject to the requirements of California Senate Bill 100 (SB 100).

SB 100 is the most stringent and current energy legislation in California; requiring that renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045.[8]

The project will also comply with the mandatory requirements of California's Green Building and Building Energy Efficiency standards that promote renewable energy and energy efficiency.

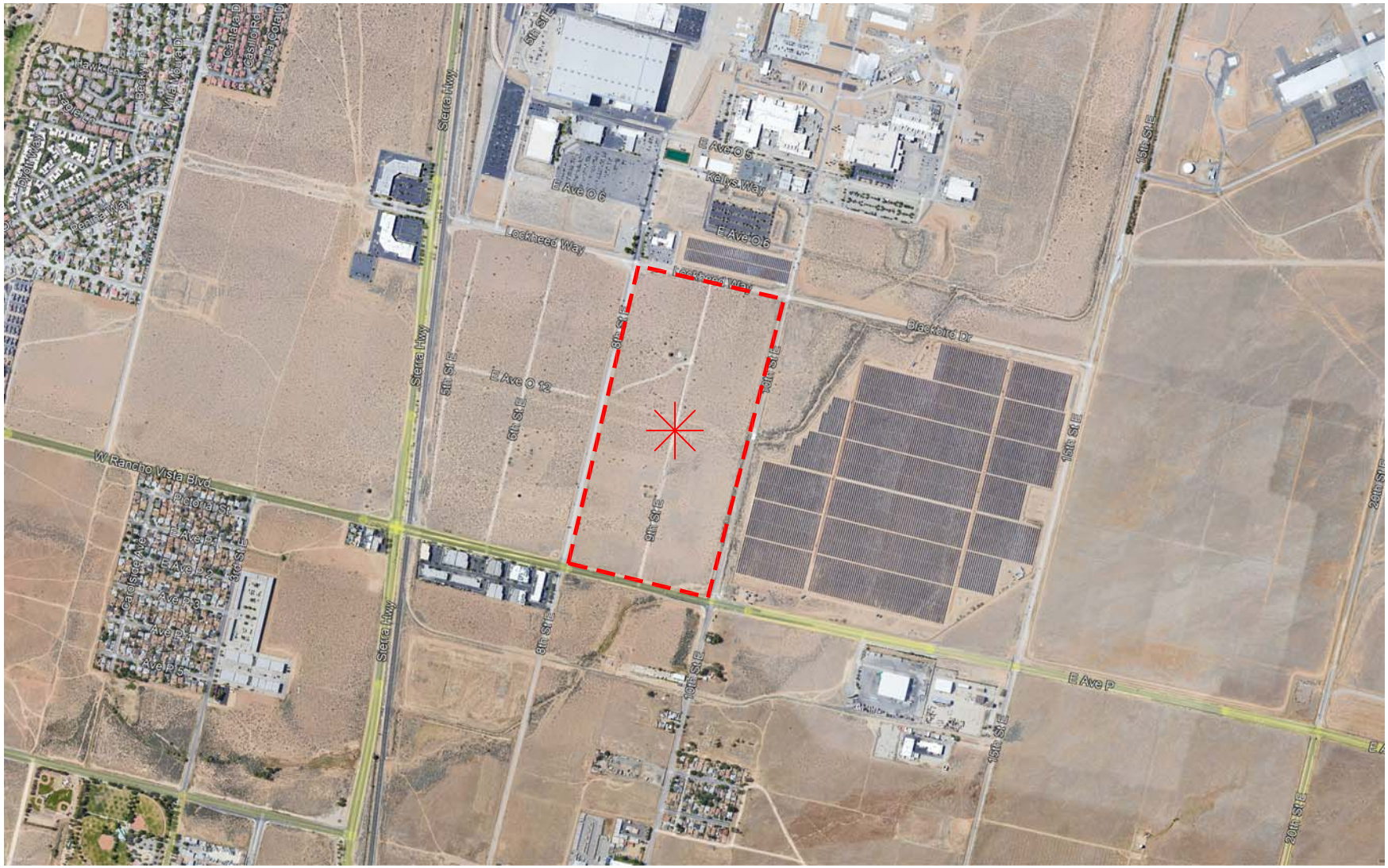
**Hence, the impact is considered less than significant.**

[8] SB-100 California Renewables Portfolio Standard Program. http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

# Exhibits

Exhibit A

# Location Map




**Legend:**

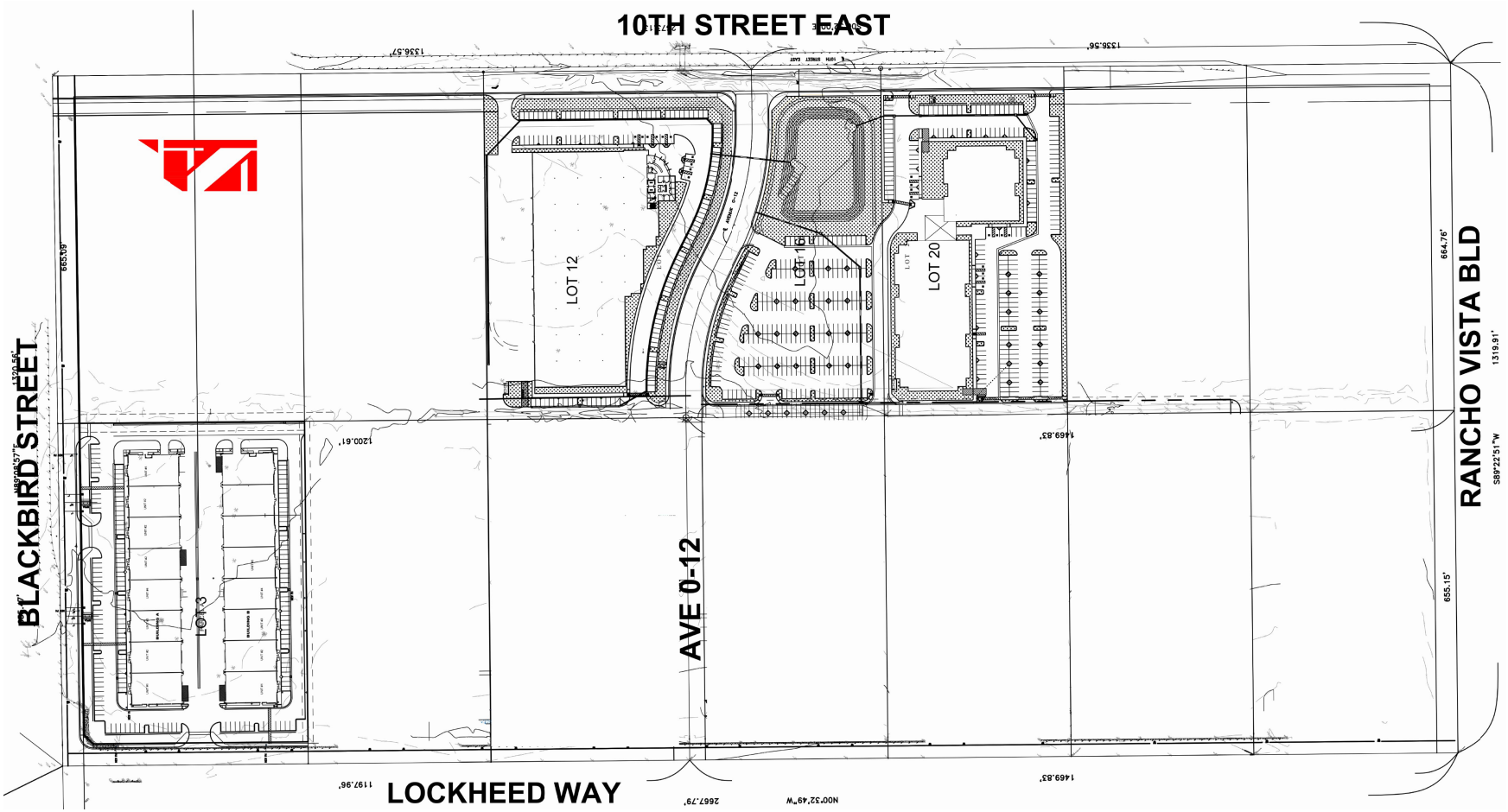
= Project Site Boundary

= Project Site

N

Exhibit B

# Site Plan



# Appendices

# Appendix A

CalEEMod Emissions Reports
(Annual, Summer & Winter)

# Patriot Business Park Custom Report

## Table of Contents

8. User Changes to Default Data

# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Patriot Business Park |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 4.50 |
| Precipitation (days) | 13.0 |
| Location | 34.606145510767874, -118.11461903380302 |
| County | Los Angeles-Mojave Desert |
| City | Palmdale |
| Air District | Antelope Valley AQMD |
| Air Basin | Mojave Desert |
| TAZ | 3655 |
| EDFZ | 7 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| General Heavy Industry | 200 | 1000sqft | 6.19 | 200,000 | 69,308 | 0.00 | — | — |
| General Office Building | 100 | 1000sqft | 3.29 | 100,000 | 43,277 | 0.00 | — | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Parking Lot | 419,706 | 1000sqft | 11.0 | 0.00 | 59,190 | 0.00 | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

| Sector | # | Measure Title |
|---|---|---|
| Construction | C-2* | Limit Heavy-Duty Diesel Vehicle Idling |
| Construction | C-10-A | Water Exposed Surfaces |

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

## 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.50 | 4.49 | 70.0 | 41.4 | 0.28 | 2.01 | 18.2 | 20.3 | 1.88 | 6.14 | 8.01 | — | 38,922 | 38,922 | 0.32 | 5.16 | 70.9 | 40,539 |
| Mit. | 5.50 | 4.49 | 70.0 | 41.4 | 0.28 | 2.01 | 12.4 | 14.4 | 1.88 | 3.88 | 5.76 | — | 38,922 | 38,922 | 0.32 | 5.16 | 70.9 | 40,539 |
| % Reduced | — | — | — | — | — | — | 32% | 29% | — | 37% | 28% | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 5.42 | 137 | 71.6 | 40.9 | 0.28 | 2.01 | 18.2 | 20.3 | 1.88 | 6.14 | 8.01 | — | 38,915 | 38,915 | 0.32 | 5.16 | 1.84 | 40,464 |
| Mit. | 5.42 | 137 | 71.6 | 40.9 | 0.28 | 2.01 | 12.4 | 14.4 | 1.88 | 3.88 | 5.76 | — | 38,915 | 38,915 | 0.32 | 5.16 | 1.84 | 40,464 |
| % Reduced | — | — | — | — | — | — | 32% | 29% | — | 37% | 28% | — | — | — | — | — | — | — |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmit. | 1.44 | 6.45 | 9.06 | 15.2 | 0.03 | 0.35 | 1.68 | 1.95 | 0.32 | 0.54 | 0.79 | — | 3,899 | 3,899 | 0.12 | 0.44 | 3.21 | 4,035 |
| Mit. | 1.44 | 6.45 | 9.06 | 15.2 | 0.03 | 0.35 | 1.24 | 1.59 | 0.32 | 0.37 | 0.62 | — | 3,899 | 3,899 | 0.12 | 0.44 | 3.21 | 4,035 |
| % Reduced | — | — | — | — | — | — | 26% | 19% | — | 32% | 22% | — | — | — | — | — | — | — |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.26 | 1.18 | 1.65 | 2.78 | 0.01 | 0.06 | 0.31 | 0.36 | 0.06 | 0.10 | 0.14 | — | 646 | 646 | 0.02 | 0.07 | 0.53 | 668 |
| Mit. | 0.26 | 1.18 | 1.65 | 2.78 | 0.01 | 0.06 | 0.23 | 0.29 | 0.06 | 0.07 | 0.11 | — | 646 | 646 | 0.02 | 0.07 | 0.53 | 668 |
| % Reduced | — | — | — | — | — | — | 26% | 19% | — | 32% | 22% | — | — | — | — | — | — | — |

## 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 5.50 | 4.49 | 70.0 | 41.4 | 0.28 | 2.01 | 18.2 | 20.3 | 1.88 | 6.14 | 8.01 | — | 38,922 | 38,922 | 0.32 | 5.16 | 70.9 | 40,539 |
| 2024 | 2.29 | 1.95 | 13.5 | 26.0 | 0.04 | 0.52 | 1.94 | 2.46 | 0.48 | 0.47 | 0.95 | — | 5,608 | 5,608 | 0.17 | 0.30 | 11.5 | 5,712 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 5.42 | 4.42 | 71.6 | 40.9 | 0.28 | 2.01 | 18.2 | 20.3 | 1.88 | 6.14 | 8.01 | — | 38,915 | 38,915 | 0.32 | 5.16 | 1.84 | 40,464 |
| 2024 | 2.18 | 137 | 13.6 | 22.1 | 0.04 | 0.52 | 1.94 | 2.46 | 0.48 | 0.47 | 0.95 | — | 5,419 | 5,419 | 0.18 | 0.30 | 0.30 | 5,512 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.85 | 0.71 | 8.39 | 7.34 | 0.03 | 0.27 | 1.68 | 1.95 | 0.25 | 0.54 | 0.79 | — | 3,899 | 3,899 | 0.06 | 0.44 | 3.13 | 4,035 |
| 2024 | 1.44 | 6.45 | 9.06 | 15.2 | 0.02 | 0.35 | 1.24 | 1.59 | 0.32 | 0.30 | 0.62 | — | 3,557 | 3,557 | 0.12 | 0.19 | 3.21 | 3,619 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.16 | 0.13 | 1.53 | 1.34 | 0.01 | 0.05 | 0.31 | 0.36 | 0.05 | 0.10 | 0.14 | — | 646 | 646 | 0.01 | 0.07 | 0.52 | 668 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2024 | 0.26 | 1.18 | 1.65 | 2.78 | < 0.005 | 0.06 | 0.23 | 0.29 | 0.06 | 0.06 | 0.11 | — | 589 | 589 | 0.02 | 0.03 | 0.53 | 599 |

## 2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 5.50 | 4.49 | 70.0 | 41.4 | 0.28 | 2.01 | 12.4 | 14.4 | 1.88 | 3.88 | 5.76 | — | 38,922 | 38,922 | 0.32 | 5.16 | 70.9 | 40,539 |
| 2024 | 2.29 | 1.95 | 13.5 | 26.0 | 0.04 | 0.52 | 1.94 | 2.46 | 0.48 | 0.47 | 0.95 | — | 5,608 | 5,608 | 0.17 | 0.30 | 11.5 | 5,712 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 5.42 | 4.42 | 71.6 | 40.9 | 0.28 | 2.01 | 12.4 | 14.4 | 1.88 | 3.88 | 5.76 | — | 38,915 | 38,915 | 0.32 | 5.16 | 1.84 | 40,464 |
| 2024 | 2.18 | 137 | 13.6 | 22.1 | 0.04 | 0.52 | 1.94 | 2.46 | 0.48 | 0.47 | 0.95 | — | 5,419 | 5,419 | 0.18 | 0.30 | 0.30 | 5,512 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.85 | 0.71 | 8.39 | 7.34 | 0.03 | 0.27 | 1.24 | 1.51 | 0.25 | 0.37 | 0.62 | — | 3,899 | 3,899 | 0.06 | 0.44 | 3.13 | 4,035 |
| 2024 | 1.44 | 6.45 | 9.06 | 15.2 | 0.02 | 0.35 | 1.24 | 1.59 | 0.32 | 0.30 | 0.62 | — | 3,557 | 3,557 | 0.12 | 0.19 | 3.21 | 3,619 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2023 | 0.16 | 0.13 | 1.53 | 1.34 | 0.01 | 0.05 | 0.23 | 0.28 | 0.05 | 0.07 | 0.11 | — | 646 | 646 | 0.01 | 0.07 | 0.52 | 668 |
| 2024 | 0.26 | 1.18 | 1.65 | 2.78 | < 0.005 | 0.06 | 0.23 | 0.29 | 0.06 | 0.06 | 0.11 | — | 589 | 589 | 0.02 | 0.03 | 0.53 | 599 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Unmit. | 13.2 | 18.8 | 33.5 | 290 | 0.14 | 0.36 | 3.82 | 4.18 | 0.36 | 0.70 | 1.06 | 306 | 27,515 | 27,821 | 32.4 | 1.16 | 109 | 29,083 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 9.78 | 15.6 | 34.1 | 265 | 0.13 | 0.34 | 3.82 | 4.16 | 0.34 | 0.70 | 1.04 | 306 | 26,537 | 26,843 | 32.4 | 1.18 | 53.8 | 28,059 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 8.28 | 14.3 | 25.4 | 199 | 0.10 | 0.32 | 2.73 | 3.05 | 0.32 | 0.50 | 0.82 | 306 | 22,015 | 22,321 | 32.2 | 0.95 | 69.6 | 23,479 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.51 | 2.60 | 4.63 | 36.3 | 0.02 | 0.06 | 0.50 | 0.56 | 0.06 | 0.09 | 0.15 | 50.7 | 3,645 | 3,696 | 5.33 | 0.16 | 11.5 | 3,887 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 10.1 | 9.55 | 9.27 | 62.8 | 0.12 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 12,663 | 12,663 | 0.59 | 0.79 | 56.2 | 12,969 |
| Area | 2.32 | 9.11 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 13.2 | 18.8 | 33.5 | 290 | 0.14 | 0.36 | 3.82 | 4.18 | 0.36 | 0.70 | 1.06 | 306 | 27,515 | 27,821 | 32.4 | 1.16 | 109 | 29,083 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mobile | 9.01 | 8.42 | 9.98 | 51.5 | 0.11 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 11,739 | 11,739 | 0.64 | 0.82 | 1.46 | 12,000 |
| Area | — | 6.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 9.78 | 15.6 | 34.1 | 265 | 0.13 | 0.34 | 3.82 | 4.16 | 0.34 | 0.70 | 1.04 | 306 | 26,537 | 26,843 | 32.4 | 1.18 | 53.8 | 28,059 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 6.49 | 6.06 | 7.25 | 39.5 | 0.08 | 0.08 | 2.73 | 2.81 | 0.08 | 0.50 | 0.58 | — | 8,537 | 8,537 | 0.47 | 0.59 | 17.3 | 8,742 |
| Area | 1.14 | 8.03 | 0.05 | 6.43 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.6 |
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.32 | 0.00 | 15.1 | 150 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 3,336 | 3,336 | 0.06 | 0.01 | — | 3,340 |
| Total | 8.28 | 14.3 | 25.4 | 199 | 0.10 | 0.32 | 2.73 | 3.05 | 0.32 | 0.50 | 0.82 | 306 | 22,015 | 22,321 | 32.2 | 0.95 | 69.6 | 23,479 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.18 | 1.11 | 1.32 | 7.21 | 0.02 | 0.02 | 0.50 | 0.51 | 0.01 | 0.09 | 0.11 | — | 1,413 | 1,413 | 0.08 | 0.10 | 2.87 | 1,447 |
| Area | 0.21 | 1.46 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |
| Energy | 0.06 | 0.03 | 0.54 | 0.46 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 1,583 | 1,583 | 0.11 | 0.01 | — | 1,588 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 20.3 | 91.8 | 112 | 2.09 | 0.05 | — | 179 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 30.4 | 0.00 | 30.4 | 3.04 | 0.00 | — | 106 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.66 | 8.66 |
| Off-Road | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |
| Total | 1.51 | 2.60 | 4.63 | 36.3 | 0.02 | 0.06 | 0.50 | 0.56 | 0.06 | 0.09 | 0.15 | 50.7 | 3,645 | 3,696 | 5.33 | 0.16 | 11.5 | 3,887 |

## 2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 10.1 | 9.55 | 9.27 | 62.8 | 0.12 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 12,663 | 12,663 | 0.59 | 0.79 | 56.2 | 12,969 |
| Area | 2.32 | 9.11 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 13.2 | 18.8 | 33.5 | 290 | 0.14 | 0.36 | 3.82 | 4.18 | 0.36 | 0.70 | 1.06 | 306 | 27,515 | 27,821 | 32.4 | 1.16 | 109 | 29,083 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 9.01 | 8.42 | 9.98 | 51.5 | 0.11 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 11,739 | 11,739 | 0.64 | 0.82 | 1.46 | 12,000 |
| Area | — | 6.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 9.78 | 15.6 | 34.1 | 265 | 0.13 | 0.34 | 3.82 | 4.16 | 0.34 | 0.70 | 1.04 | 306 | 26,537 | 26,843 | 32.4 | 1.18 | 53.8 | 28,059 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 6.49 | 6.06 | 7.25 | 39.5 | 0.08 | 0.08 | 2.73 | 2.81 | 0.08 | 0.50 | 0.58 | — | 8,537 | 8,537 | 0.47 | 0.59 | 17.3 | 8,742 |
| Area | 1.14 | 8.03 | 0.05 | 6.43 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 26.5 | 26.5 | < 0.005 | < 0.005 | — | 26.6 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Energy | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 9,561 | 9,561 | 0.69 | 0.05 | — | 9,593 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Off-Road | 0.32 | 0.00 | 15.1 | 150 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 3,336 | 3,336 | 0.06 | 0.01 | — | 3,340 |
| Total | 8.28 | 14.3 | 25.4 | 199 | 0.10 | 0.32 | 2.73 | 3.05 | 0.32 | 0.50 | 0.82 | 306 | 22,015 | 22,321 | 32.2 | 0.95 | 69.6 | 23,479 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 1.18 | 1.11 | 1.32 | 7.21 | 0.02 | 0.02 | 0.50 | 0.51 | 0.01 | 0.09 | 0.11 | — | 1,413 | 1,413 | 0.08 | 0.10 | 2.87 | 1,447 |
| Area | 0.21 | 1.46 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |
| Energy | 0.06 | 0.03 | 0.54 | 0.46 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 1,583 | 1,583 | 0.11 | 0.01 | — | 1,588 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 20.3 | 91.8 | 112 | 2.09 | 0.05 | — | 179 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 30.4 | 0.00 | 30.4 | 3.04 | 0.00 | — | 106 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.66 | 8.66 |
| Off-Road | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |
| Total | 1.51 | 2.60 | 4.63 | 36.3 | 0.02 | 0.06 | 0.50 | 0.56 | 0.06 | 0.09 | 0.15 | 50.7 | 3,645 | 3,696 | 5.33 | 0.16 | 11.5 | 3,887 |

# 3. Construction Emissions Details

## 3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.70 | 3.95 | 39.7 | 35.5 | 0.05 | 1.81 | — | 1.81 | 1.66 | — | 1.66 | — | 5,295 | 5,295 | 0.21 | 0.04 | — | 5,314 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.08 | 0.76 | 0.68 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 102 | 102 | < 0.005 | < 0.005 | — | 102 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.01 | 0.14 | 0.12 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 16.8 | 16.8 | < 0.005 | < 0.005 | — | 16.9 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.12 | 0.12 | 1.98 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.05 | 0.05 | — | 262 | 262 | 0.01 | 0.01 | 1.17 | 266 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.60 | 4.60 | < 0.005 | < 0.005 | 0.01 | 4.66 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.76 | 0.76 | < 0.005 | < 0.005 | < 0.005 | 0.77 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.2. Site Preparation (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.70 | 3.95 | 39.7 | 35.5 | 0.05 | 1.81 | — | 1.81 | 1.66 | — | 1.66 | — | 5,295 | 5,295 | 0.21 | 0.04 | — | 5,314 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.08 | 0.76 | 0.68 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 102 | 102 | < 0.005 | < 0.005 | — | 102 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.01 | 0.14 | 0.12 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 16.8 | 16.8 | < 0.005 | < 0.005 | — | 16.9 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.12 | 0.12 | 0.12 | 1.98 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.05 | 0.05 | — | 262 | 262 | 0.01 | 0.01 | 1.17 | 266 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.60 | 4.60 | < 0.005 | < 0.005 | 0.01 | 4.66 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.76 | 0.76 | < 0.005 | < 0.005 | < 0.005 | 0.77 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.43 | 3.72 | 37.3 | 31.4 | 0.06 | 1.59 | — | 1.59 | 1.47 | — | 1.47 | — | 6,598 | 6,598 | 0.27 | 0.05 | — | 6,621 |
| Dust From Material Movement | — | — | — | — | — | — | 9.52 | 9.52 | — | 3.70 | 3.70 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.43 | 3.72 | 37.3 | 31.4 | 0.06 | 1.59 | — | 1.59 | 1.47 | — | 1.47 | — | 6,598 | 6,598 | 0.27 | 0.05 | — | 6,621 |
| Dust From Material Movement | — | — | — | — | — | — | 9.52 | 9.52 | — | 3.70 | 3.70 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.34 | 0.29 | 2.86 | 2.41 | < 0.005 | 0.12 | — | 0.12 | 0.11 | — | 0.11 | — | 506 | 506 | 0.02 | < 0.005 | — | 508 |
| Dust From Material Movement | — | — | — | — | — | — | 0.73 | 0.73 | — | 0.28 | 0.28 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.52 | 0.44 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 83.8 | 83.8 | < 0.005 | < 0.005 | — | 84.1 |
| Dust From Material Movement | — | — | — | — | — | — | 0.13 | 0.13 | — | 0.05 | 0.05 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.13 | 0.13 | 2.26 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 300 | 300 | 0.01 | 0.01 | 1.34 | 305 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.93 | 0.64 | 32.6 | 7.76 | 0.22 | 0.41 | 8.46 | 8.87 | 0.41 | 2.37 | 2.78 | — | 32,023 | 32,023 | 0.04 | 5.10 | 69.5 | 33,614 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.13 | 0.11 | 0.15 | 1.53 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 266 | 266 | 0.01 | 0.01 | 0.03 | 270 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.87 | 0.59 | 34.2 | 7.96 | 0.22 | 0.41 | 8.46 | 8.87 | 0.41 | 2.37 | 2.78 | — | 32,051 | 32,051 | 0.04 | 5.10 | 1.80 | 33,573 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 21.0 | 21.0 | < 0.005 | < 0.005 | 0.04 | 21.3 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.07 | 0.05 | 2.63 | 0.60 | 0.02 | 0.03 | 0.64 | 0.68 | 0.03 | 0.18 | 0.21 | — | 2,457 | 2,457 | < 0.005 | 0.39 | 2.31 | 2,576 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.48 | 3.48 | < 0.005 | < 0.005 | 0.01 | 3.53 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.01 | 0.01 | 0.48 | 0.11 | < 0.005 | 0.01 | 0.12 | 0.12 | 0.01 | 0.03 | 0.04 | — | 407 | 407 | < 0.005 | 0.06 | 0.38 | 427 |

## 3.4. Grading (2023) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.43 | 3.72 | 37.3 | 31.4 | 0.06 | 1.59 | — | 1.59 | 1.47 | — | 1.47 | — | 6,598 | 6,598 | 0.27 | 0.05 | — | 6,621 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dust From Material Movement | — | — | — | — | — | — | 3.71 | 3.71 | — | 1.44 | 1.44 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 4.43 | 3.72 | 37.3 | 31.4 | 0.06 | 1.59 | — | 1.59 | 1.47 | — | 1.47 | — | 6,598 | 6,598 | 0.27 | 0.05 | — | 6,621 |
| Dust From Material Movement | — | — | — | — | — | — | 3.71 | 3.71 | — | 1.44 | 1.44 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.34 | 0.29 | 2.86 | 2.41 | < 0.005 | 0.12 | — | 0.12 | 0.11 | — | 0.11 | — | 506 | 506 | 0.02 | < 0.005 | — | 508 |
| Dust From Material Movement | — | — | — | — | — | — | 0.28 | 0.28 | — | 0.11 | 0.11 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.06 | 0.05 | 0.52 | 0.44 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 83.8 | 83.8 | < 0.005 | < 0.005 | — | 84.1 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.13 | 0.13 | 2.26 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 300 | 300 | 0.01 | 0.01 | 1.34 | 305 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.93 | 0.64 | 32.6 | 7.76 | 0.22 | 0.41 | 8.46 | 8.87 | 0.41 | 2.37 | 2.78 | — | 32,023 | 32,023 | 0.04 | 5.10 | 69.5 | 33,614 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.13 | 0.11 | 0.15 | 1.53 | 0.00 | 0.00 | 0.26 | 0.26 | 0.00 | 0.06 | 0.06 | — | 266 | 266 | 0.01 | 0.01 | 0.03 | 270 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.87 | 0.59 | 34.2 | 7.96 | 0.22 | 0.41 | 8.46 | 8.87 | 0.41 | 2.37 | 2.78 | — | 32,051 | 32,051 | 0.04 | 5.10 | 1.80 | 33,573 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 21.0 | 21.0 | < 0.005 | < 0.005 | 0.04 | 21.3 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.07 | 0.05 | 2.63 | 0.60 | 0.02 | 0.03 | 0.64 | 0.68 | 0.03 | 0.18 | 0.21 | — | 2,457 | 2,457 | < 0.005 | 0.39 | 2.31 | 2,576 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.48 | 3.48 | < 0.005 | < 0.005 | 0.01 | 3.53 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.01 | 0.01 | 0.48 | 0.11 | < 0.005 | 0.01 | 0.12 | 0.12 | 0.01 | 0.03 | 0.04 | — | 407 | 407 | < 0.005 | 0.06 | 0.38 | 427 |

## 3.5. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.50 | 1.26 | 11.8 | 13.2 | 0.02 | 0.55 | — | 0.55 | 0.51 | — | 0.51 | — | 2,397 | 2,397 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.22 | 0.18 | 1.73 | 1.93 | < 0.005 | 0.08 | — | 0.08 | 0.07 | — | 0.07 | — | 352 | 352 | 0.01 | < 0.005 | — | 353 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.32 | 0.35 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 58.3 | 58.3 | < 0.005 | < 0.005 | — | 58.5 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.76 | 0.65 | 0.87 | 8.90 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,545 | 1,545 | 0.08 | 0.06 | 0.20 | 1,564 |
| Vendor | 0.06 | 0.05 | 1.73 | 0.68 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,521 | 1,521 | < 0.005 | 0.22 | 0.11 | 1,587 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.13 | 1.46 | 0.00 | 0.00 | 0.22 | 0.22 | 0.00 | 0.05 | 0.05 | — | 233 | 233 | 0.01 | 0.01 | 0.49 | 237 |
| Vendor | 0.01 | 0.01 | 0.25 | 0.10 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.02 | 0.02 | — | 223 | 223 | < 0.005 | 0.03 | 0.27 | 233 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.27 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 38.6 | 38.6 | < 0.005 | < 0.005 | 0.08 | 39.2 |
| Vendor | < 0.005 | < 0.005 | 0.05 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 36.9 | 36.9 | < 0.005 | 0.01 | 0.05 | 38.6 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.6. Building Construction (2023) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.50 | 1.26 | 11.8 | 13.2 | 0.02 | 0.55 | — | 0.55 | 0.51 | — | 0.51 | — | 2,397 | 2,397 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.22 | 0.18 | 1.73 | 1.93 | < 0.005 | 0.08 | — | 0.08 | 0.07 | — | 0.07 | — | 352 | 352 | 0.01 | < 0.005 | — | 353 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.32 | 0.35 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 58.3 | 58.3 | < 0.005 | < 0.005 | — | 58.5 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.76 | 0.65 | 0.87 | 8.90 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,545 | 1,545 | 0.08 | 0.06 | 0.20 | 1,564 |
| Vendor | 0.06 | 0.05 | 1.73 | 0.68 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,521 | 1,521 | < 0.005 | 0.22 | 0.11 | 1,587 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.13 | 1.46 | 0.00 | 0.00 | 0.22 | 0.22 | 0.00 | 0.05 | 0.05 | — | 233 | 233 | 0.01 | 0.01 | 0.49 | 237 |
| Vendor | 0.01 | 0.01 | 0.25 | 0.10 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.02 | 0.02 | — | 223 | 223 | < 0.005 | 0.03 | 0.27 | 233 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.27 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.01 | 0.01 | — | 38.6 | 38.6 | < 0.005 | < 0.005 | 0.08 | 39.2 |
| Vendor | < 0.005 | < 0.005 | 0.05 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 36.9 | 36.9 | < 0.005 | 0.01 | 0.05 | 38.6 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.44 | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.44 | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.91 | 0.76 | 7.14 | 8.34 | 0.01 | 0.32 | — | 0.32 | 0.29 | — | 0.29 | — | 1,525 | 1,525 | 0.06 | 0.01 | — | 1,530 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.17 | 0.14 | 1.30 | 1.52 | < 0.005 | 0.06 | — | 0.06 | 0.05 | — | 0.05 | — | 252 | 252 | 0.01 | < 0.005 | — | 253 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.80 | 0.69 | 0.71 | 12.3 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,710 | 1,710 | 0.07 | 0.06 | 7.24 | 1,736 |
| Vendor | 0.06 | 0.05 | 1.57 | 0.61 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,500 | 1,500 | < 0.005 | 0.22 | 4.30 | 1,570 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.69 | 0.63 | 0.77 | 8.34 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,519 | 1,519 | 0.08 | 0.06 | 0.19 | 1,538 |
| Vendor | 0.05 | 0.05 | 1.66 | 0.63 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,502 | 1,502 | < 0.005 | 0.22 | 0.11 | 1,568 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.44 | 0.40 | 0.52 | 5.94 | 0.00 | 0.00 | 0.96 | 0.96 | 0.00 | 0.22 | 0.22 | — | 994 | 994 | 0.05 | 0.04 | 2.00 | 1,008 |
| Vendor | 0.03 | 0.03 | 1.06 | 0.40 | 0.01 | 0.01 | 0.27 | 0.28 | 0.01 | 0.07 | 0.09 | — | 955 | 955 | < 0.005 | 0.14 | 1.18 | 998 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.09 | 1.08 | 0.00 | 0.00 | 0.17 | 0.17 | 0.00 | 0.04 | 0.04 | — | 165 | 165 | 0.01 | 0.01 | 0.33 | 167 |
| Vendor | 0.01 | 0.01 | 0.19 | 0.07 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.02 | — | 158 | 158 | < 0.005 | 0.02 | 0.19 | 165 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.8. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.44 | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.44 | 1.20 | 11.2 | 13.1 | 0.02 | 0.50 | — | 0.50 | 0.46 | — | 0.46 | — | 2,398 | 2,398 | 0.10 | 0.02 | — | 2,406 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.91 | 0.76 | 7.14 | 8.34 | 0.01 | 0.32 | — | 0.32 | 0.29 | — | 0.29 | — | 1,525 | 1,525 | 0.06 | 0.01 | — | 1,530 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.17 | 0.14 | 1.30 | 1.52 | < 0.005 | 0.06 | — | 0.06 | 0.05 | — | 0.05 | — | 252 | 252 | 0.01 | < 0.005 | — | 253 |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.80 | 0.69 | 0.71 | 12.3 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,710 | 1,710 | 0.07 | 0.06 | 7.24 | 1,736 |
| Vendor | 0.06 | 0.05 | 1.57 | 0.61 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,500 | 1,500 | < 0.005 | 0.22 | 4.30 | 1,570 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.69 | 0.63 | 0.77 | 8.34 | 0.00 | 0.00 | 1.52 | 1.52 | 0.00 | 0.36 | 0.36 | — | 1,519 | 1,519 | 0.08 | 0.06 | 0.19 | 1,538 |
| Vendor | 0.05 | 0.05 | 1.66 | 0.63 | 0.01 | 0.02 | 0.42 | 0.44 | 0.02 | 0.12 | 0.14 | — | 1,502 | 1,502 | < 0.005 | 0.22 | 0.11 | 1,568 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.44 | 0.40 | 0.52 | 5.94 | 0.00 | 0.00 | 0.96 | 0.96 | 0.00 | 0.22 | 0.22 | — | 994 | 994 | 0.05 | 0.04 | 2.00 | 1,008 |
| Vendor | 0.03 | 0.03 | 1.06 | 0.40 | 0.01 | 0.01 | 0.27 | 0.28 | 0.01 | 0.07 | 0.09 | — | 955 | 955 | < 0.005 | 0.14 | 1.18 | 998 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.09 | 1.08 | 0.00 | 0.00 | 0.17 | 0.17 | 0.00 | 0.04 | 0.04 | — | 165 | 165 | 0.01 | 0.01 | 0.33 | 167 |
| Vendor | 0.01 | 0.01 | 0.19 | 0.07 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.02 | — | 158 | 158 | < 0.005 | 0.02 | 0.19 | 165 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.01 | 0.85 | 7.81 | 10.0 | 0.01 | 0.39 | — | 0.39 | 0.36 | — | 0.36 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 2.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.30 | 0.38 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 58.0 | 58.0 | < 0.005 | < 0.005 | — | 58.2 |
| Paving | — | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.05 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.60 | 9.60 | < 0.005 | < 0.005 | — | 9.63 |
| Paving | — | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.10 | 1.08 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 196 | 196 | 0.01 | 0.01 | 0.02 | 199 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 7.75 | 7.75 | < 0.005 | < 0.005 | 0.02 | 7.86 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.28 | 1.28 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.10. Paving (2024) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.01 | 0.85 | 7.81 | 10.0 | 0.01 | 0.39 | — | 0.39 | 0.36 | — | 0.36 | — | 1,512 | 1,512 | 0.06 | 0.01 | — | 1,517 |
| Paving | — | 2.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.30 | 0.38 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 58.0 | 58.0 | < 0.005 | < 0.005 | — | 58.2 |
| Paving | — | 0.08 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.05 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 9.60 | 9.60 | < 0.005 | < 0.005 | — | 9.63 |
| Paving | — | 0.01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.09 | 0.08 | 0.10 | 1.08 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 196 | 196 | 0.01 | 0.01 | 0.02 | 199 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 7.75 | 7.75 | < 0.005 | < 0.005 | 0.02 | 7.86 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.28 | 1.28 | < 0.005 | < 0.005 | < 0.005 | 1.30 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.17 | 0.14 | 0.91 | 1.15 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | — | 134 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.12 | 5.12 | < 0.005 | < 0.005 | — | 5.14 |
| Architectural Coatings | — | 5.13 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.85 | 0.85 | < 0.005 | < 0.005 | — | 0.85 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architect Coatings | — | 0.94 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.13 | 0.15 | 1.67 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.07 | 0.07 | — | 304 | 304 | 0.02 | 0.01 | 0.04 | 308 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | < 0.005 | 0.01 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 12.0 | 12.0 | < 0.005 | < 0.005 | 0.02 | 12.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.99 | 1.99 | < 0.005 | < 0.005 | < 0.005 | 2.01 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 3.12. Architectural Coating (2024) - Mitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.17 | 0.14 | 0.91 | 1.15 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | — | 134 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 5.12 | 5.12 | < 0.005 | < 0.005 | — | 5.14 |
| Architectural Coatings | — | 5.13 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 0.85 | 0.85 | < 0.005 | < 0.005 | — | 0.85 |
| Architectural Coatings | — | 0.94 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.14 | 0.13 | 0.15 | 1.67 | 0.00 | 0.00 | 0.30 | 0.30 | 0.00 | 0.07 | 0.07 | — | 304 | 304 | 0.02 | 0.01 | 0.04 | 308 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | < 0.005 | 0.01 | 0.07 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 12.0 | 12.0 | < 0.005 | < 0.005 | 0.02 | 12.2 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.99 | 1.99 | < 0.005 | < 0.005 | < 0.005 | 2.01 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 3.94 | 3.69 | 5.69 | 28.0 | 0.06 | 0.07 | 1.88 | 1.95 | 0.07 | 0.36 | 0.42 | — | 6,561 | 6,561 | 0.25 | 0.49 | 30.0 | 6,744 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 6.17 | 5.85 | 3.58 | 34.8 | 0.06 | 0.05 | 1.94 | 1.98 | 0.04 | 0.34 | 0.39 | — | 6,101 | 6,101 | 0.34 | 0.30 | 26.2 | 6,226 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 10.1 | 9.55 | 9.27 | 62.8 | 0.12 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 12,663 | 12,663 | 0.59 | 0.79 | 56.2 | 12,969 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 3.62 | 3.36 | 6.09 | 23.1 | 0.06 | 0.07 | 1.88 | 1.95 | 0.07 | 0.36 | 0.42 | — | 6,162 | 6,162 | 0.28 | 0.50 | 0.78 | 6,319 |
| General Office Building | 5.39 | 5.06 | 3.89 | 28.4 | 0.05 | 0.05 | 1.94 | 1.98 | 0.04 | 0.34 | 0.39 | — | 5,576 | 5,576 | 0.37 | 0.32 | 0.68 | 5,680 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 9.01 | 8.42 | 9.98 | 51.5 | 0.11 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 11,739 | 11,739 | 0.64 | 0.82 | 1.46 | 12,000 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.47 | 0.44 | 0.80 | 3.23 | 0.01 | 0.01 | 0.25 | 0.25 | 0.01 | 0.05 | 0.06 | — | 740 | 740 | 0.03 | 0.06 | 1.53 | 760 |
| General Office Building | 0.71 | 0.67 | 0.52 | 3.98 | 0.01 | 0.01 | 0.25 | 0.26 | 0.01 | 0.04 | 0.05 | — | 674 | 674 | 0.04 | 0.04 | 1.34 | 688 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 1.18 | 1.11 | 1.32 | 7.21 | 0.02 | 0.02 | 0.50 | 0.51 | 0.01 | 0.09 | 0.11 | — | 1,413 | 1,413 | 0.08 | 0.10 | 2.87 | 1,447 |

### 4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 3.94 | 3.69 | 5.69 | 28.0 | 0.06 | 0.07 | 1.88 | 1.95 | 0.07 | 0.36 | 0.42 | — | 6,561 | 6,561 | 0.25 | 0.49 | 30.0 | 6,744 |
| General Office Building | 6.17 | 5.85 | 3.58 | 34.8 | 0.06 | 0.05 | 1.94 | 1.98 | 0.04 | 0.34 | 0.39 | — | 6,101 | 6,101 | 0.34 | 0.30 | 26.2 | 6,226 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 10.1 | 9.55 | 9.27 | 62.8 | 0.12 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 12,663 | 12,663 | 0.59 | 0.79 | 56.2 | 12,969 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 3.62 | 3.36 | 6.09 | 23.1 | 0.06 | 0.07 | 1.88 | 1.95 | 0.07 | 0.36 | 0.42 | — | 6,162 | 6,162 | 0.28 | 0.50 | 0.78 | 6,319 |
| General Office Building | 5.39 | 5.06 | 3.89 | 28.4 | 0.05 | 0.05 | 1.94 | 1.98 | 0.04 | 0.34 | 0.39 | — | 5,576 | 5,576 | 0.37 | 0.32 | 0.68 | 5,680 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 9.01 | 8.42 | 9.98 | 51.5 | 0.11 | 0.12 | 3.82 | 3.94 | 0.11 | 0.70 | 0.81 | — | 11,739 | 11,739 | 0.64 | 0.82 | 1.46 | 12,000 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.47 | 0.44 | 0.80 | 3.23 | 0.01 | 0.01 | 0.25 | 0.25 | 0.01 | 0.05 | 0.06 | — | 740 | 740 | 0.03 | 0.06 | 1.53 | 760 |
| General Office Building | 0.71 | 0.67 | 0.52 | 3.98 | 0.01 | 0.01 | 0.25 | 0.26 | 0.01 | 0.04 | 0.05 | — | 674 | 674 | 0.04 | 0.04 | 1.34 | 688 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 1.18 | 1.11 | 1.32 | 7.21 | 0.02 | 0.02 | 0.50 | 0.51 | 0.01 | 0.09 | 0.11 | — | 1,413 | 1,413 | 0.08 | 0.10 | 2.87 | 1,447 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 2,796 | 2,796 | 0.17 | 0.02 | — | 2,807 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 2,597 | 2,597 | 0.16 | 0.02 | — | 2,607 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | < 0.005 | — | 614 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 6,005 | 6,005 | 0.37 | 0.05 | — | 6,028 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 2,796 | 2,796 | 0.17 | 0.02 | — | 2,807 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 2,597 | 2,597 | 0.16 | 0.02 | — | 2,607 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | < 0.005 | — | 614 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 6,005 | 6,005 | 0.37 | 0.05 | — | 6,028 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 463 | 463 | 0.03 | < 0.005 | — | 465 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 430 | 430 | 0.03 | < 0.005 | — | 432 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 101 | 101 | 0.01 | < 0.005 | — | 102 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 994 | 994 | 0.06 | 0.01 | — | 998 |

### 4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 2,796 | 2,796 | 0.17 | 0.02 | — | 2,807 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 2,597 | 2,597 | 0.16 | 0.02 | — | 2,607 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | < 0.005 | — | 614 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 6,005 | 6,005 | 0.37 | 0.05 | — | 6,028 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 2,796 | 2,796 | 0.17 | 0.02 | — | 2,807 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 2,597 | 2,597 | 0.16 | 0.02 | — | 2,607 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 611 | 611 | 0.04 | < 0.005 | — | 614 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 6,005 | 6,005 | 0.37 | 0.05 | — | 6,028 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | 463 | 463 | 0.03 | < 0.005 | — | 465 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 430 | 430 | 0.03 | < 0.005 | — | 432 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | — | 101 | 101 | 0.01 | < 0.005 | — | 102 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 994 | 994 | 0.06 | 0.01 | — | 998 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.25 | 0.13 | 2.30 | 1.93 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,743 | 2,743 | 0.24 | 0.01 | — | 2,751 |
| General Office Building | 0.07 | 0.04 | 0.68 | 0.57 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 812 | 812 | 0.07 | < 0.005 | — | 815 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 3,556 | 3,556 | 0.31 | 0.01 | — | 3,566 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.25 | 0.13 | 2.30 | 1.93 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,743 | 2,743 | 0.24 | 0.01 | — | 2,751 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.07 | 0.04 | 0.68 | 0.57 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 812 | 812 | 0.07 | < 0.005 | — | 815 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 3,556 | 3,556 | 0.31 | 0.01 | — | 3,566 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.05 | 0.02 | 0.42 | 0.35 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 454 | 454 | 0.04 | < 0.005 | — | 455 |
| General Office Building | 0.01 | 0.01 | 0.12 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 134 | 134 | 0.01 | < 0.005 | — | 135 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.06 | 0.03 | 0.54 | 0.46 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 589 | 589 | 0.05 | < 0.005 | — | 590 |

### 4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.25 | 0.13 | 2.30 | 1.93 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,743 | 2,743 | 0.24 | 0.01 | — | 2,751 |
| General Office Building | 0.07 | 0.04 | 0.68 | 0.57 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 812 | 812 | 0.07 | < 0.005 | — | 815 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 3,556 | 3,556 | 0.31 | 0.01 | — | 3,566 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.25 | 0.13 | 2.30 | 1.93 | 0.01 | 0.17 | — | 0.17 | 0.17 | — | 0.17 | — | 2,743 | 2,743 | 0.24 | 0.01 | — | 2,751 |
| General Office Building | 0.07 | 0.04 | 0.68 | 0.57 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 812 | 812 | 0.07 | < 0.005 | — | 815 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.33 | 0.16 | 2.98 | 2.50 | 0.02 | 0.23 | — | 0.23 | 0.23 | — | 0.23 | — | 3,556 | 3,556 | 0.31 | 0.01 | — | 3,566 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | 0.05 | 0.02 | 0.42 | 0.35 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 454 | 454 | 0.04 | < 0.005 | — | 455 |
| General Office Building | 0.01 | 0.01 | 0.12 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 134 | 134 | 0.01 | < 0.005 | — | 135 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | 0.06 | 0.03 | 0.54 | 0.46 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 589 | 589 | 0.05 | < 0.005 | — | 590 |

## 4.3. Area Emissions by Source

### 4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumer Products | — | 6.46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.51 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.32 | 2.14 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Total | 2.32 | 9.11 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 6.46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.51 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 6.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.09 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.21 | 0.19 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |
| Total | 0.21 | 1.46 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |

### 4.3.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 6.46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.51 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.32 | 2.14 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Total | 2.32 | 9.11 | 0.11 | 13.0 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 53.7 | 53.7 | < 0.005 | < 0.005 | — | 53.8 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 6.46 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.51 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | 6.97 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | — | 1.18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | — | 0.09 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Landscape Equipme | 0.21 | 0.19 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |
| Total | 0.21 | 1.46 | 0.01 | 1.17 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 4.38 | 4.38 | < 0.005 | < 0.005 | — | 4.40 |

## 4.4. Water Emissions by Land Use

### 4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 88.6 | 395 | 484 | 9.11 | 0.22 | — | 777 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 34.1 | 153 | 188 | 3.50 | 0.08 | — | 300 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.92 | 5.92 | < 0.005 | < 0.005 | — | 5.94 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 88.6 | 395 | 484 | 9.11 | 0.22 | — | 777 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 34.1 | 153 | 188 | 3.50 | 0.08 | — | 300 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.92 | 5.92 | < 0.005 | < 0.005 | — | 5.94 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 14.7 | 65.4 | 80.1 | 1.51 | 0.04 | — | 129 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 5.64 | 25.4 | 31.0 | 0.58 | 0.01 | — | 49.7 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.98 | 0.98 | < 0.005 | < 0.005 | — | 0.98 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 20.3 | 91.8 | 112 | 2.09 | 0.05 | — | 179 |

### 4.4.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 88.6 | 395 | 484 | 9.11 | 0.22 | — | 777 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 34.1 | 153 | 188 | 3.50 | 0.08 | — | 300 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.92 | 5.92 | < 0.005 | < 0.005 | — | 5.94 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 88.6 | 395 | 484 | 9.11 | 0.22 | — | 777 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 34.1 | 153 | 188 | 3.50 | 0.08 | — | 300 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.92 | 5.92 | < 0.005 | < 0.005 | — | 5.94 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 123 | 554 | 677 | 12.6 | 0.30 | — | 1,083 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 14.7 | 65.4 | 80.1 | 1.51 | 0.04 | — | 129 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 5.64 | 25.4 | 31.0 | 0.58 | 0.01 | — | 49.7 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.98 | 0.98 | < 0.005 | < 0.005 | — | 0.98 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 20.3 | 91.8 | 112 | 2.09 | 0.05 | — | 179 |

## 4.5. Waste Emissions by Land Use

### 4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 50.1 | 0.00 | 50.1 | 5.01 | 0.00 | — | 175 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 50.1 | 0.00 | 50.1 | 5.01 | 0.00 | — | 175 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 22.1 | 0.00 | 22.1 | 2.21 | 0.00 | — | 77.4 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 8.30 | 0.00 | 8.30 | 0.83 | 0.00 | — | 29.0 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 30.4 | 0.00 | 30.4 | 3.04 | 0.00 | — | 106 |

### 4.5.1. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 50.1 | 0.00 | 50.1 | 5.01 | 0.00 | — | 175 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 134 | 0.00 | 134 | 13.4 | 0.00 | — | 468 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 50.1 | 0.00 | 50.1 | 5.01 | 0.00 | — | 175 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 184 | 0.00 | 184 | 18.4 | 0.00 | — | 643 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | 22.1 | 0.00 | 22.1 | 2.21 | 0.00 | — | 77.4 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 8.30 | 0.00 | 8.30 | 0.83 | 0.00 | — | 29.0 |
| Parking Lot | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 30.4 | 0.00 | 30.4 | 3.04 | 0.00 | — | 106 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.1 | 52.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.24 | 0.24 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.1 | 52.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.24 | 0.24 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.62 | 8.62 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.04 | 0.04 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.66 | 8.66 |

### 4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.1 | 52.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.24 | 0.24 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.1 | 52.1 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.24 | 0.24 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.3 | 52.3 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| General Heavy Industry | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.62 | 8.62 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.04 | 0.04 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.66 | 8.66 |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |
| Total | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |

### 4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Total | 0.45 | 0.00 | 21.2 | 211 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 4,683 | 4,683 | 0.09 | 0.01 | — | 4,688 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Forklifts | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |
| Total | 0.06 | 0.00 | 2.75 | 27.5 | 0.00 | 0.00 | — | 0.00 | 0.00 | — | 0.00 | — | 552 | 552 | 0.01 | < 0.005 | — | 553 |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Site Preparation | Site Preparation | 8/30/2023 | 9/7/2023 | 5.00 | 7.00 | — |
| Grading | Grading | 9/8/2023 | 10/17/2023 | 5.00 | 28.0 | — |
| Building Construction | Building Construction | 10/18/2023 | 11/20/2024 | 5.00 | 286 | — |
| Paving | Paving | 11/21/2024 | 12/10/2024 | 5.00 | 14.0 | — |
| Architectural Coating | Architectural Coating | 12/10/2024 | 12/27/2024 | 5.00 | 14.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

### 5.2.2. Mitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | Diesel | Average | 3.00 | 8.00 | 367 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 4.00 | 8.00 | 84.0 | 0.37 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Excavators | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 8.00 | 84.0 | 0.37 |
| Grading | Scrapers | Diesel | Average | 2.00 | 8.00 | 423 | 0.48 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Building Construction | Forklifts | Diesel | Average | 3.00 | 8.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 7.00 | 367 | 0.29 |
| Building Construction | Welders | Diesel | Average | 1.00 | 8.00 | 46.0 | 0.45 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 7.00 | 84.0 | 0.37 |
| Paving | Pavers | Diesel | Average | 2.00 | 8.00 | 81.0 | 0.42 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Paving | Paving Equipment | Diesel | Average | 2.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 17.5 | 18.5 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 10.2 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 10.2 | HHDT,MHDT |
| Grading | Hauling | 467 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 116 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 49.2 | 10.2 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 10.2 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |

| | | | | |
|---|---|---|---|---|
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 23.2 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

### 5.3.2. Mitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 17.5 | 18.5 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 10.2 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 20.0 | 18.5 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 10.2 | HHDT,MHDT |
| Grading | Hauling | 467 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 116 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 49.2 | 10.2 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 10.2 | HHDT,MHDT |

| | | | | |
|---|---|---|---|---|
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 23.2 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

| Control Strategies Applied | PM10 Reduction | PM2.5 Reduction |
|---|---|---|
| Water unpaved roads twice daily | 55% | 55% |
| Limit vehicle speeds on unpaved roads to 25 mph | 44% | 44% |
| Sweep paved roads once per month | 9% | 9% |

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 0.00 | 0.00 | 450,000 | 150,000 | 28,723 |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (sq. ft.) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Grading | 79,421 | 0.00 | 84.0 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 11.0 |

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| General Heavy Industry | 0.00 | 0% |
| General Office Building | 0.00 | 0% |
| Parking Lot | 11.0 | 100% |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2023 | 0.00 | 532 | 0.03 | < 0.005 |
| 2024 | 0.00 | 532 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| General Heavy Industry | 974 | 0.00 | 0.00 | 253,936 | 6,266 | 0.00 | 0.00 | 1,633,693 |
| General Office Building | 1,084 | 0.00 | 0.00 | 282,614 | 6,974 | 0.00 | 0.00 | 1,818,196 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### 5.9.2. Mitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| General Heavy Industry | 974 | 0.00 | 0.00 | 253,936 | 6,266 | 0.00 | 0.00 | 1,633,693 |
| General Office Building | 1,084 | 0.00 | 0.00 | 282,614 | 6,974 | 0.00 | 0.00 | 1,818,196 |
| Parking Lot | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

#### 5.10.1.2. Mitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 0 | 0.00 | 450,000 | 150,000 | 28,723 |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

### 5.10.4. Landscape Equipment - Mitigated

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 180 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| General Heavy Industry | 1,918,547 | 532 | 0.0330 | 0.0040 | 8,560,388 |
| General Office Building | 1,782,029 | 532 | 0.0330 | 0.0040 | 2,534,647 |
| Parking Lot | 419,363 | 532 | 0.0330 | 0.0040 | 0.00 |

### 5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| General Heavy Industry | 1,918,547 | 532 | 0.0330 | 0.0040 | 8,560,388 |
| General Office Building | 1,782,029 | 532 | 0.0330 | 0.0040 | 2,534,647 |
| Parking Lot | 419,363 | 532 | 0.0330 | 0.0040 | 0.00 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| General Heavy Industry | 46,250,000 | 1,121,701 |
| General Office Building | 17,773,375 | 700,408 |
| Parking Lot | 0.00 | 957,948 |

### 5.12.2. Mitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|

| | | |
|---|---|---|
| General Heavy Industry | 46,250,000 | 1,121,701 |
| General Office Building | 17,773,375 | 700,408 |
| Parking Lot | 0.00 | 957,948 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| General Heavy Industry | 248 | 0.00 |
| General Office Building | 93.0 | 0.00 |
| Parking Lot | 0.00 | 0.00 |

### 5.13.2. Mitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| General Heavy Industry | 248 | 0.00 |
| General Office Building | 93.0 | 0.00 |
| Parking Lot | 0.00 | 0.00 |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| General Heavy Industry | Other commercial A/C and heat pumps | R-410A | 2,088 | 0.30 | 4.00 | 4.00 | 18.0 |
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

### 5.14.2. Mitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| General Heavy Industry | Other commercial A/C and heat pumps | R-410A | 2,088 | 0.30 | 4.00 | 4.00 | 18.0 |
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|
| Forklifts | CNG | Average | 24.0 | 8.00 | 82.0 | 0.20 |

### 5.15.2. Mitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|
| Forklifts | CNG | Average | 24.0 | 8.00 | 82.0 | 0.20 |

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|
| — | — |

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

#### 5.18.1.2. Mitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

#### 5.18.1.2. Mitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

5.18.2.2. Mitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Land Use | The project will include 100,000 SF of General Office building, 200,000 SF of Industrial building, 835 parking spaces, and 171,775 SF of landscaping on four lots totaling in 20.47 acres. |
| Construction: Construction Phases | The project site is currently vacant and no demolition will be required. Construction timeline is adjusted to reflect the project's 2024 opening year. |
| Construction: Dust From Material Movement | Project will import a total of 79,421 CY of earthwork material during the grading phase. |
| Construction: Trips and VMT | The project proposes a total of 6,618 round hauling trips during the grading phase, assuming a truck capacity of 12 CY. |
| Construction: Off-Road Equipment | — |
| Operations: Vehicle Data | Trip rates are adjusted based on the Level of Service Deficiency and Vehicle Miles Traveled Analysis, prepared by David Evans and Associates, Inc. in December 2022. |
| Operations: Fleet Mix | Industrial fleet mix is adjusted to reflect 78.6% passenger cars, 11.9% 2-axle and 3-axle trucks, and 9.5% 4-axle trucks, per the Level of Service Deficiency and Vehicle Miles Traveled Analysis - Patriot Business Park, prepared by David Evans and Associates Inc. in December 2022. |

# Appendix B

EMFAC2021 Vehicle Fuel Consumption Data

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Air District
Region: Antelope Valley AQMD
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

| Region | Calendar Y | Vehicle Cat | Model Yea | Speed | Fuel | Population | Total VMT | Fuel Consu | Fuel Split | MPG, | MPG, |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Antelope V | 2024 | HHDT | Aggregate | Aggregate | Gasoline | 0.032086 | 17.47849 | 0.003412 | 8.76E-05 | 5.122206 | 6.362637 |
| Antelope V | 2024 | HHDT | Aggregate | Aggregate | Diesel | 1430.543 | 247940 | 38.96746 | 0.999912 | 6.362746 | |
| Antelope V | 2024 | LDA | Aggregate | Aggregate | Gasoline | 76762.27 | 3949408 | 133.0492 | 0.997771 | 29.68381 | 29.71746 |
| Antelope V | 2024 | LDA | Aggregate | Aggregate | Diesel | 290.1712 | 13308.04 | 0.297185 | 0.002229 | 44.78038 | |
| Antelope V | 2024 | LDT1 | Aggregate | Aggregate | Gasoline | 6423.849 | 279226.1 | 11.33059 | 0.999708 | 24.64355 | 24.64373 |
| Antelope V | 2024 | LDT1 | Aggregate | Aggregate | Diesel | 3.917566 | 83.49263 | 0.003308 | 0.000292 | 25.2394 | |
| Antelope V | 2024 | LDT2 | Aggregate | Aggregate | Gasoline | 24686.63 | 1247525 | 51.76052 | 0.997906 | 24.10186 | 24.12434 |
| Antelope V | 2024 | LDT2 | Aggregate | Aggregate | Diesel | 67.34472 | 3784.205 | 0.108629 | 0.002094 | 34.83609 | |
| Antelope V | 2024 | LHDT1 | Aggregate | Aggregate | Gasoline | 2610.294 | 99000.44 | 7.48903 | 0.640637 | 13.21939 | 16.14869 |
| Antelope V | 2024 | LHDT1 | Aggregate | Aggregate | Diesel | 2313.838 | 89777.22 | 4.20094 | 0.359363 | 21.37075 | |
| Antelope V | 2024 | LHDT2 | Aggregate | Aggregate | Gasoline | 347.4204 | 13454.24 | 1.106489 | 0.324667 | 12.15939 | 15.88888 |
| Antelope V | 2024 | LHDT2 | Aggregate | Aggregate | Diesel | 1022.086 | 40696.18 | 2.301581 | 0.675333 | 17.68184 | |
| Antelope V | 2024 | MCY | Aggregate | Aggregate | Gasoline | 3991.966 | 23471.23 | 0.563251 | 1 | 41.67099 | 41.67099 |
| Antelope V | 2024 | MDV | Aggregate | Aggregate | Gasoline | 20760.82 | 963723.3 | 49.62399 | 0.986891 | 19.42051 | 19.48984 |
| Antelope V | 2024 | MDV | Aggregate | Aggregate | Diesel | 337.0808 | 16287.63 | 0.659178 | 0.013109 | 24.709 | |
| Antelope V | 2024 | MH | Aggregate | Aggregate | Gasoline | 855.8079 | 7728.305 | 1.557513 | 0.859419 | 4.961953 | 5.722457 |
| Antelope V | 2024 | MH | Aggregate | Aggregate | Diesel | 290.1686 | 2642.426 | 0.254774 | 0.140581 | 10.37166 | |
| Antelope V | 2024 | MHDT | Aggregate | Aggregate | Gasoline | 151.3995 | 15593.17 | 2.914623 | 0.24251 | 5.34998 | 8.395738 |
| Antelope V | 2024 | MHDT | Aggregate | Aggregate | Diesel | 1658.118 | 85311.72 | 9.103962 | 0.75749 | 9.370834 | |
| Antelope V | 2024 | OBUS | Aggregate | Aggregate | Gasoline | 51.71122 | 3997.018 | 0.780997 | 0.61226 | 5.117842 | 5.840997 |
| Antelope V | 2024 | OBUS | Aggregate | Aggregate | Diesel | 43.67445 | 3453.744 | 0.494601 | 0.38774 | 6.982892 | |
| Antelope V | 2024 | SBUS | Aggregate | Aggregate | Gasoline | 51.92998 | 5164.963 | 0.547529 | 0.33624 | 9.433216 | 8.207485 |
| Antelope V | 2024 | SBUS | Aggregate | Aggregate | Diesel | 366.1892 | 8200.012 | 1.080859 | 0.66376 | 7.586568 | |
| Antelope V | 2024 | UBUS | Aggregate | Aggregate | Diesel | 29.27119 | 5007.087 | 0.764724 | 1 | 6.547576 | 6.547576 |