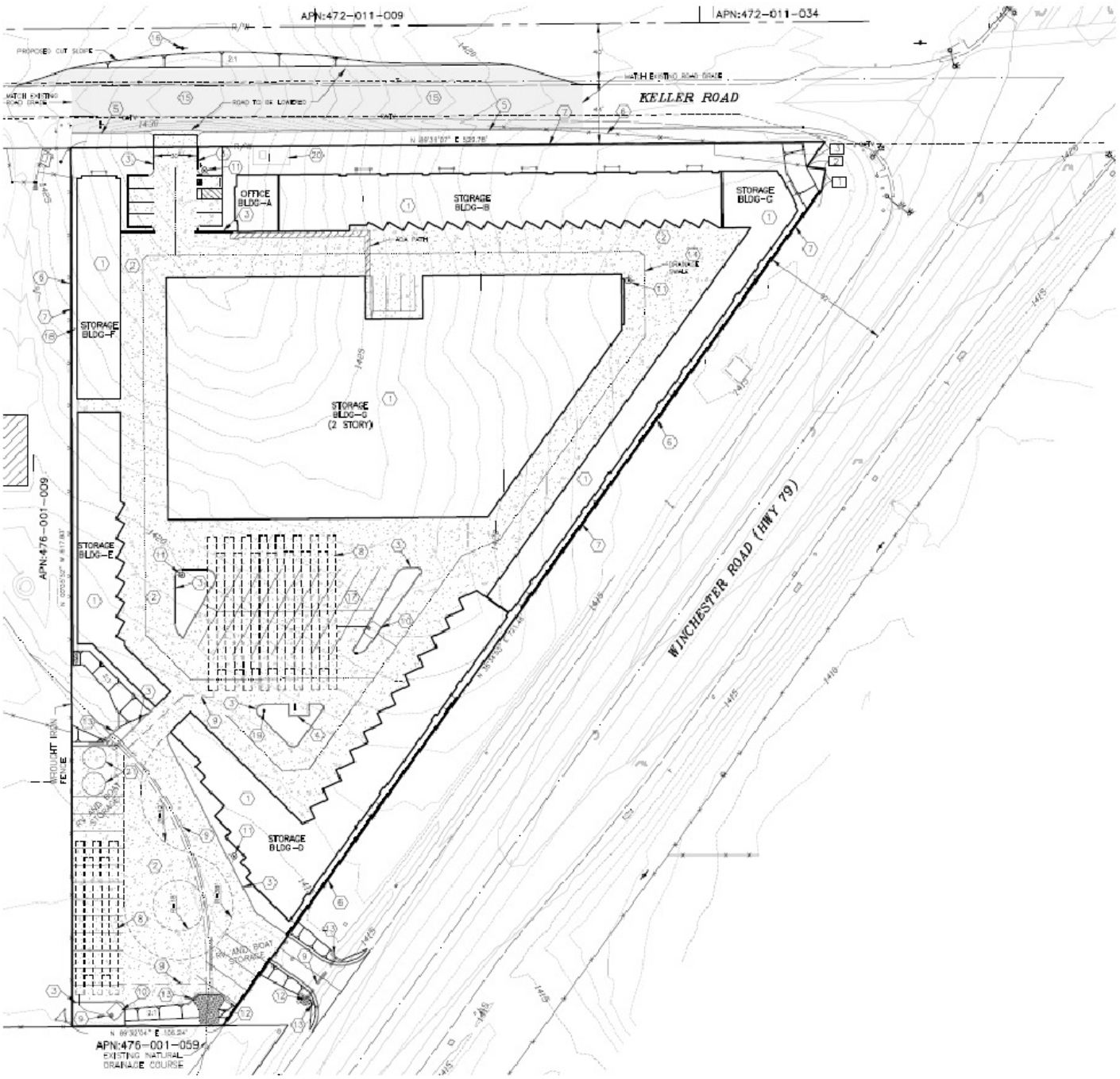
# TEMECULA VALLEY SELF STORAGE
# AIR QUALITY AND GREENHOUSE GAS IMPACT STUDY
## County of Riverside, California




RK engineering group, inc.

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# 1.0 Introduction

The purpose of this air quality and greenhouse gas (GHG) impact study is to determine whether the estimated criteria air pollutants and greenhouse gas emissions generated from the construction and operation of the proposed Temecula Valley Self Storage facility (hereinafter referred to as project) would cause significant impacts to air resources.

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 South Coast Air Quality Management District (SCAQMD), and County of Riverside recommendations for quantification of emissions and evaluation of potential impacts.

## 1.1 Site Location

The proposed Temecula Valley Self Storage facility project site is located at the southwest corner of Winchester Road (SR-79) and Keller Road, in unincorporated Riverside County. The project site is located within the South Coast Air Basin (SCAB), the SCAQMD Temecula Anza General Forecast Area, and the *Temecula Valley* air monitoring area-26.

The project site is bounded by Keller road to the north, Winchester Road to the east and south and residential use to the West.

The project site is currently vacant and is zoned for General Commercial (C-1/C-P). The County of Riverside General Plan land use map designates the project site as Commercial Retail.

The project location map is provided in Exhibit A.

## 1.2 Project Description

The project proposes to construct and operate a self-storage facility with approximately 137,197 square feet of building area on approximately 4.6 acre lot. The project will also consist of constructing and paving of approximately 15,530 square feet of Keller Road, west of Winchester Road and along the project frontage to provide vehicular access to the site.

The site plan used for this analysis, provided by the PRIZM GROUP, is illustrated in Exhibit B. Table 1 summarizes the proposed project land uses.

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

| Land Use | Quantity | Metric |
|---|---|---|
| Self-Storage Facility | 137,197 | S.F. |
| Paving (Keller Road) | 15,530 | S.F. |

The site requires grading and import of approximately 10,230 cubic yards of fill material during site preparation phase.

Construction of the project is estimated to begin in the year 2021 and last approximately 13 months. Construction activities are expected to consist of site preparation, grading, building construction, paving, and architectural coating. The project is expected to be operational in the year 2022.

It should be noted that the site plan for the project has been recently modified and the total building area of the project site was reduced from 137,197 sqaure feet to 123,328 square feet – a 13,969 sqaure foot reduction. However, the emissions analysis contained in this report is based on the previous version of the project site plan (137,197 square feet). The modified site plan would not significantly change the project description and the would actually be expected to result in slightly lower air quality and greenhouse gas emissions compared to what was previously, as the reduced building area would result in lower energy usage and less mobile vehicle trips. Thus, lowering the building area will result in lower emissions. No other major changes to the project would be expected from the modified site plan.

Therefore, the air quality and GHG emissions analysis contained in this report represents a worst case scenario, and no additional air quality or GHG impacts would be expected to result from the modified plan.

## 1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24-hours or longer, such as residences, hospitals, and schools (etc), as described in the Localized Significance Threshold Methodology (SCAQMD 2008a,

page 3-2).

The nearest sensitive land uses are considered the residential homes located adjacent to the project site to the west of the site. Sensitive receptors are located within 25 meters of the project site.

## 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 | |
| c) 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 | |
| d) Expose sensitive receptors to substantial pollutant concentrations? | | X | | |
| e) 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 Mitigation Measures

The following mitigation measures are recommended to help ensure the project does expose sensitive receptors to substantial pollutant concentrations. In particular, given the close proximity of sensitive receptors, residential use to the west, several standard dust control measures have been included as mitigation to ensure adequate enforcement and compliance.

**Construction Mitigation Measures:**

**MM-1** The project must follow the standard SCAQMD rules and requirements with regards to fugitive dust control, which includes, but are not limited to the following:

1. All active construction areas shall be watered two (2) times daily.
2. Speed on unpaved roads shall be reduced to less than 15 mph.
3. Any visible dirt deposition on any public roadway shall be swept or washed at the site access points within 30 minutes.
4. Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered twice daily.
5. All operations on any unpaved surface shall be suspended if winds exceed 15 mph.
6. Access points shall be washed or swept daily.
7. Construction sites shall be sandbagged for erosion control.

8. Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
9. Cover all trucks hauling dirt, sand, soil, or other loose materials, and maintain at least 2 feet of freeboard space in accordance with the requirements of California Vehicle Code (CVC) section 23114.
10. Pave or gravel construction access roads at least 100 feet onto the site from the main road and use gravel aprons at truck exits.
11. Replace the ground cover of disturbed areas as quickly possible.
12. A fugitive dust control plan should be prepared and submitted to SCAQMD prior to the start of construction.

**MM-2** All diesel-powered off-road construction equipment with 25 horsepower or greater shall be equipped with Tier 4 engines. Prior to issuance of the grading permit, the contractor must demonstrate the ability to supply the compliant construction equipment.

**MM-3** Prepare and implement a Construction Management Plan which will include Best Available Control Measures to be submitted to the County of Riverside.

**MM-4** Construction equipment shall be maintained in proper tune.

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

**MM-6** Minimize the simultaneous operation of multiple construction equipment units.

**MM-7** The use of heavy construction equipment and earthmoving activity should be suspended during Air Alerts when the Air Quality Index reaches the "Unhealthy" level.

**MM-8** Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

**MM-9** Establish staging areas for the construction equipment that are as distant as possible from adjacent sensitive receptors (residential land uses).

**MM-10** Use haul trucks with on-road engines instead of off-road engines for on-site hauling.

**MM-11** Utilize low VOC and no VOC paints and solvents, where feasible.

## 1.6 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.

**DF-1.** Comply with the mandatory requirements of Title 24 part 11 of the California Building Standards Code (CALGreen) and the Title 24 Part 6 Building Efficiency Standards

# 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.

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[1].

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. The following descriptions of criteria air pollutants have been provided by the SCAQMD.

- **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

[1] SCAQMD. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning (May 6, 2005)

increases the background level of CO in their blood. The South Coast basin has recently achieved attainment status for carbon monoxide by both USEPA and CARB.

- **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. The South Coast Air Basin is designated by the USEPA as an extreme non-attainment area for ozone. Although $O_3$ concentrations have declined substantially since the early 1990s, the South Coast basin continues to have peak $O_3$ levels that exceed both state and federal standards.

- **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. The South Coast basin has recently achieved federal attainment status for $PM_{10}$, but is non-attainment based on state requirements.

- **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. The South Coast basin is designated as non-attainment for $PM_{2.5}$ by both federal and state standards.

- **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 $SO_2$. Though $SO_2$ concentrations have been reduced to levels well below state and federal standards, further reductions in $SO_2$ emissions are needed because $SO_2$ is a precursor to sulfate and $PM_{10}$. The South Coast basin is considered a $SO_2$ attainment area by USEPA and CARB.

- **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 South Coast 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),** although not actually a criteria air pollutant, VOCs are regulated by the SCAQMD because they cause chemical reactions which contribute to the formation of ozone. VOCs are also 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 South Coast Air Basin (SCAB).

**Table 5**
**South Coast Air Basin Attainment Status[1]**

| Pollutant | State Status | National Status |
|---|---|---|
| Ozone | Nonattainment | Nonattainment (Extreme)[2] |
| Carbon monoxide | Attainment | Attainment (Maintenance) |
| Nitrogen dioxide | Attainment | Attainment (Maintenance) |
| $PM_{10}$ | Nonattainment | Attainment (Maintenance) |
| $PM_{2.5}$ | Nonattainment | Nonattainment |
| Lead | Attainment | Nonattainment (Partial)[3] |

[1] Source: California Air Resources Board. http://www.arb.ca.gov/desig/adm/adm.htm
[2] 8-Hour Ozone.
[3] Partial Nonattainment designation – Los Angeles County portion of Basin only.

## 2.4 South Coast Air Quality Management District (SCAQMD)

The agency responsible for air pollution control for the South Coast Air Basin (SCAB) is the South Coast Air Quality Management District (SCAQMD). SCAQMD is responsible for controlling emissions primarily from stationary sources. SCAQMD maintains air quality monitoring stations throughout the SCAB. SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the SCAB. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air SCAB where one or more ambient air quality standards are exceeded.

Every three (3) years the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The latest version is the 2016 AQMP. The 2016 AQMP is a regional blueprint for achieving the federal air quality standards and healthful air. While air quality has dramatically improved over the years, the SCAB still exceeds federal public health standards for both ozone and particulate matter (PM) and experiences some of the worst air pollution in the nation. The 2016 AQMP includes both stationary and mobile source strategies to ensure that rapidly approaching attainment deadlines are met, that public health is protected to the maximum extent feasible, and that the region is not faced with burdensome sanctions if the Plan is not approved or if the NAAQS are not met on time.

The most significant air quality challenge in the SCAB is to reduce nitrogen oxide (NOx) emissions sufficiently to meet the upcoming ozone standard deadlines. Based on the inventory and modeling results, 522 tons per day (tpd) of total SCAB NOx 2012 emissions are projected to drop to 255 tpd and 214 tpd in the 8-hour ozone attainment years of 2023 and 2031 respectively, due to continued implementation of already adopted regulatory actions ("baseline emissions"). The analysis suggests that total SCAB emissions of NOx must be reduced to approximately 141 tpd in 2023 and 96 tpd in 2031 to attain the 8-hour ozone standards. This represents an additional 45 percent reduction in NOx in 2023, and an additional 55 percent NOx reduction beyond 2031 levels.

The SCAQMD establishes a program of rules and regulations to obtain attainment of the state and federal standards in conjunction with the AQMP. Several of the rules and regulations that may be applicable to this project include, but are not limited to, the following:

**SCAQMD Rule 402** prohibits a person from discharging 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.

**SCAQMD Rule 403** governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

**SCAQMD Rule 445** restricts wood burning devices from being installed into any new development and is intended to reduce the emissions of particulate matter for wood burning devices.

**SCAQMD Rule 1113** governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available during construction. Therefore, all paints and solvents used during construction and operation of project must comply with Rule 1113.

**SCAQMD Rule 1143** governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment,

and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

**SCAQMD Rule 1186** limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

**SCAQMD Rule 1303** governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM10 among other pollutants.

**SCAQMD Rule 2202** On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

## 2.5 South Coast Air Basin

The project is located within the South Coast Air Basin (SCAB). To the west of the SCAB is the Pacific Ocean. To the north and east are the San Gabriel, San Bernardino, and San Jacinto mountains, while the southern limit of the SCAB is the San Diego County line. The SCAB consists of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County.

The local dominant wind blows predominantly from the south-southwest with relatively low velocities. The annual average annual wind speed is about 10 miles per hour. Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion limit the vertical dispersion of air pollutants throughout the SCAB.

The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events.

The annual average temperature varies little throughout much of the SCAB, ranging from the low to middle 60s (°F). With more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas.

The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal regions and Los Angeles metropolitan area are transported inland until reaching the mountains, where the combination of mountains and temperature inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas of the SCAB. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows.

Temperature inversions are an important feature that limits the vertical depth through which pollution can be mixed. During the summer, coastal areas are characterized by a sharp discontinuity between the cool marine air at the surface and the warm, sinking air aloft within the high-pressure cell over the ocean to the west. This marine/subsidence inversion allows for good local mixing, but acts like a giant lid over the SCAB. The air remains stagnant, as the average wind speed in downtown Los Angeles becomes less than five mph.

The second type of inversion forms on clear winter nights when cold air off the mountains sinks to the valley floor while the air aloft over the valley remains warm. This forms radiation inversions. These inversions, in conjunction with calm winds, trap pollutants such as those from automobile exhaust near their source. They lead to air pollution "hotspots" in heavily developed coastal areas of the SCAB, although onshore breezes often push the pollutants along canyons into the inland valleys. Summers are often periods of hazy visibility and occasionally unhealthful air, while winter air quality impacts tend to be highly localized and can consist of elevated levels of nitrogen dioxide and fine particulate matter.

## 2.6 Local Climate and Meteorology

The weather station closest to the project site is a National Weather Service Cooperative weather station located at Sun City Station, (048655). Climatological data from the National Weather Service at this station is summarized in Table 6.

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

| Month | Temperature (°F) | | | Mean Precipitation (inches) |
|---|---|---|---|---|
| | Max. | Min. | Mean | Max. |
| January | 66.1 | 36.3 | 51.1 | 2.66 |
| February | 68.4 | 38.7 | 53.5 | 3.25 |
| March | 69.6 | 41.1 | 55.4 | 1.96 |
| Total | 76.7 | 44.4 | 60.5 | 0.66 |
| May | 82.1 | 49.6 | 65.9 | 0.31 |
| June | 91.9 | 54.0 | 72.9 | 0.05 |
| July | 97.4 | 58.9 | 78.1 | 0.03 |
| August | 98.0 | 59.4 | 78.7 | 0.24 |
| September | 92.6 | 57.5 | 75.0 | 0.15 |
| October | 84.2 | 49.2 | 66.8 | 0.25 |
| November | 73.8 | 39.8 | 56.8 | 0.66 |
| December | 67.6 | 34.5 | 51.0 | 1.02 |
| **Annual** | **80.7** | **46.9** | **63.8** | **11.22** |

[1] Source: Western Regional Climate Center 2012. Averages derived from measurements recorded between 1973 and 2006 at Sun City Station No. 048655.

## 2.7 Local Air Quality

The air quality at any site is dependent on the regional air quality and local pollutant sources. Regional air quality is determined by the release of pollutants throughout the air basin. Estimates of the existing emissions in the Basin provided in the Final 2016 Air Quality Management Plan, prepared by SCAQMD, March 2017, indicate that collectively, mobile sources account for 60 percent of the VOC, 90 percent of the NOx emissions, 95 percent of the CO emissions and 34 percent of directly emitted PM2.5, with another 13 percent of PM2.5 from road dust.

The SCAQMD has divided the SCAB into fourteen general forecasting areas and thirty eight Source Receptor Areas (SRA) for monitoring and reporting local air quality. The SCAQMD provides daily reports of the current air quality conditions in each general forecast area and SRA. The monitoring areas provide a general representation of the local meteorological, terrain, and air quality conditions within the SCAB.

The project is located within the Metropolitan general forecasting area and Temecula Valley air monitoring area (SRA-26).

Table 7 summarizes the published air quality monitoring data from 2017 through 2019, 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. For criteria pollutants not monitored at the Temecula Valley station, data from the nearest monitoring station with a comparable setting were used.

## Table 7
## Local Air Quality

| Air Pollutant Location | Averaging Time | Item | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|
| **Carbon Monoxide** -- Lake Elsinore | 1 Hour | Max 1-Hour (ppm) | 1.2 | 1.1 | 1.6 |
| | | Exceeded State Standard (20 ppm) | No | No | No |
| | | Exceeded National Standard (35 ppm) | No | No | No |
| | 8 Hour | Max 8 Hour (ppm) | 0.8 | 0.8 | 0.7 |
| | | Exceeded State Standard (9 ppm) | No | No | No |
| | | Exceeded National Standard (9 ppm) | No | No | No |
| **Ozone** -- Temecula Valley | 1 Hour | Max 1-Hour (ppm) | 0.104 | 0.107 | 0.108 |
| | | Days > State Standard (0.09 ppm) | 4 | 2 | 4 |
| | 8 Hour | Max 8 Hour (ppm) | 0.088 | 0.085 | 0.091 |
| | | Days > State Standard (0.07 ppm) | 47 | 15 | 6 |
| | | Days >National Standard (0.07 ppm) | 47 | 15 | 6 |
| **Nitrogen Dioxide** -- Lake Elsinore | 1 Hour | Max 1-Hour (ppm) | 0.049 | 0.0413 | 0.038 |
| | | Exceeded State Standard (0.18 ppm) | No | No | No |
| | Annual | Annual Average (ppm) | 0.0082 | 0.0085 | 0.0068 |
| | | Exceeded >State Standard (0.030 ppm) | No | No | No |
| | | Exceeded >National Standard (0.053 ppm) | No | No | No |
| **Sulfur Dioxide** -- Temecula Valley | 1 Hour | Max 1 Hour (ppm) | -- | -- | -- |
| | | Exceed State Standard (0.25 ppm) | -- | -- | -- |
| | | Exceed National Standard (0.075 ppm) | -- | -- | -- |
| **Coarse Particles (PM10)** -- Lake Elsinore | 24 Hour | Max 24-Hour ($\mu g/m^3$) | 133 | 104 | 93 |
| | | Days > State Standard (50 $\mu g/m^3$) | 9 | 9 | 5 |
| | | Days >National Standard (150 $\mu g/m^3$) | 0 | 0 | 0 |
| | Annual | Annual Average ($\mu g/m^3$) | 22.5 | 22.4 | 18.7 |
| | | Exceeded State Standard (20 $\mu g/m^3$) | Yes | Yes | No |
| **Fine Particulates (PM2.5)** -- Temecula Valley | 24 Hour | Max 24-Hour ($\mu g/m^3$) | -- | -- | -- |
| | | Days >National Standard (35 $\mu g/m^3$) | -- | -- | -- |
| | Annual | Annual Average ($\mu g/m^3$) | -- | -- | -- |
| | | Exceeded State Standard (12 $\mu g/m^3$) | -- | -- | -- |
| | | Exceeded National Standard (15 $\mu g/m^3$) | -- | -- | -- |

Source: https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year
$\mu g/m^3$ = 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 than 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) fifth assessment report (AR5).

**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 | 28 |
| Nitrous Oxide | $N_2O$ | 114 | 265 |
| Sulphur Hexafluoride | $SF_6$ | 3200 | 23,500 |
| Nitrogen Trifluoride | $NF_3$ | 740 | 16,100 |
| Hexafluoroethane (PFC-116) | $C_2F_6$ | 10,000 | 11,100 |
| Octafluoropropane (PFC-218) | $C_3F_8$ | 2,600 | 8,900 |
| Octafluorocyclobutane (PFC-318) | $C_4F_8$ | 3,200 | 9,540 |
| Tetrafluoromethane (PFC-14) | $CF_4$ | 50,000 | 6,630 |
| Hydrofluorocarbon 125 | HFC-125 | 29 | 3,170 |
| Hydrofluorocarbon 134a | HFC-134a | 14 | 1,300 |
| Hydrofluorocarbon 143a | HFC-143a | 52 | 4,800 |
| Hydrofluorocarbon 152a | HFC-152a | 1 | 138 |
| Hydrofluorocarbon 227ea | HFC-227ea | 34 | 3,350 |
| Hydrofluorocarbon 23 | HFC-23 | 270 | 12,400 |
| Hydrofluorocarbon 236fa | HFC-236fa | 240 | 8,060 |
| Hydrofluorocarbon 245fa | HFC-245fa | 8 | 858 |
| Hydrofluorocarbon 32 | HFC-32 | 5 | 677 |
| Hydrofluorocarbon 365mfc | HFC-365mfc | 9 | 804 |
| Hydrofluorocarbon 43-10mee | HFC-43-10mee | 16 | 1,650 |

[1] Source: IPCC Fifth Assessment Report (AR5)
https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf
[2] GWPs are used to convert GHG emission values to "carbon dioxide equivalent" ($CO_2e$) units

## 3.2 GHG Regulatory Setting - International

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

**United Nations.** The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change. The 2014 UN Climate Change Conference in Lima Peru provided a unique opportunity to engage all countries to assess how developed countries are implementing actions to reduce emissions.

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

**The Paris Agreement.** The Paris agreement is the first comprehensive global climate agreement to be ratified by the United States, United Nations, China, and India; the largest producers of greenhouse gas emissions in the world. The agreement was negotiated by a total of 195 nations and entered into force on November 4, 2016. The central aim is to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2 degrees Celsius compared to pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the

impacts of climate change. Currently, 122 parties have ratified the agreement. The Trump administration has recently indicated the United States federal government will no longer participate in the Paris agreement.

## 3.3 GHG Regulatory Setting – National

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

**Clean Vehicles.** Congress first passed the Corporate Average Fuel Economy (CAFE) law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Traffic Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They required these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards were estimated to cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016).

The second phase of the national program for passenger cars, light-duty trucks, and medium-duty passenger vehicles covers model years 2017 through 2025. The final standards were established in 2012 and were projected to result in an average industry fleetwide level of 163 grams/mile of carbon dioxide (CO2) in model year 2025, which is equivalent to 54.5 miles per gallon (mpg) if achieved exclusively through fuel economy improvements.

The EPA and the U.S. Department of Transportation also implemented the first national standards to reduce greenhouse gas emissions and improve the fuel efficiency of medium- and heavy-duty engines and vehicles trucks and buses in 2010. The standards applied to all on-road vehicles rated at a gross vehicle weight at or above 8,500 pounds, and the engines that power them, except those covered by the current GHG emissions and CAFE standards for light duty vehicles, for model year 2014 to 2018. In 2016, the EPA and NHTSA finalized phase 2 of the standards which applied to model years 2018 through 2027.

**The Safer Affordable Fuel Efficient (SAFE) Vehicles.** The National Highway Traffic Safety Administration (NHTSA) and the Environmental Protection Agency (EPA) have amended certain previous Corporate Average Fuel Economy (CAFE) and greenhouse gas emissions standards for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026. The (SAFE) Vehicles Rule published on April 30, 2020 and is effective as of June 29, 2020.

**Mandatory Reporting of Greenhouse Gases.** On January 1, 2010, the EPA started requiring large emitters of heat-trapping emissions to begin collecting GHG data under a new reporting system. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

**Climate Adaptation Planning.** The EPA's Climate Change Adaptation Plan identifies priority actions the EPA will take to incorporate considerations of climate change into its programs, policies, rules and operations to ensure they are effective under future climatic conditions. Under the Trump administration, the EPA has said it would continue to advance climate adaptation efforts and that the agency recognizes the challenges that communities face in adapting to a changing climate. The EPA currently runs the Climate Change Adaptation Resource Center (ARC-X) to help local governments prepare for climate change.

## 3.4 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. Some of the key climate legislation in the State include the following:

**Assembly Bill (AB) 32, California Global Warming Solutions Act of 2006.** AB 32 set the stage for the State's transition to a sustainable, low-carbon future. AB 32 was the first program in the country to take a comprehensive, long-term approach to addressing climate change.[2] AB 32 was followed by Senate Bill (SB) 32, which further requires GHG emissions to be reduced to 40% below 1990 levels by 2030 and appointing CARB to develop policies (i.e. cap-and-trade) to achieve this goal.

**Senate Bill (SB) 375, Sustainable Communities & Climate Protection Act of 2008.** SB 375 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]

**Senate Bill (SB) 100, California Renewables Portfolio Standard Program.** SB 100 established a landmark policy requiring renewable energy and zero-carbon resources supply 100 percent of electric retail sales to end-use customers by 2045.[4]

## 3.5 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 (2018)[2] | State of California (2018)[3] | SCAG (2020)[4] | County of Riverside (2017)[5] |
|---|---|---|---|
| 6,678 $MMTCO_2e$ | 425 $MMTCO_2e$ | 216.4 $MMTCO_2e$ | 4.90 $MMTCO_2e$ |

[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://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ghg_inventory_trends_00-18.pdf
[4] http://www.scag.ca.gov/programs/Pages/GreenhouseGases.aspx
[5] https://planning.rctlma.org/Portals/14/CAP/2019/2019_CAP_Update_Full.pd

[2] California Air Resources Board. AB 32 Global Warming Solutions Act of 2006. https://ww2.arb.ca.gov/resources/fact-sheets/ab-32-global-warming-solutions-act-2006
[3] California Air Resources Board. Sustainable Communities and Climate Protection Program. https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-climate-protection-program/about
[4] California Energy Commission. SB 100 Joint Agency Report. https://www.energy.ca.gov/sb100

# 4.0 Modeling Parameters and Assumptions

The California Emissions Estimator Model Version 2016.3.2 (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 of the project is assumed to begin in the year 2021 and last approximately 13 months. Construction activity will consist of site preparation, grading, building construction, paving, and architectural coating. The grading phase requires soil import of approximately 10,230 cubic yards of fill materials. Construction phases are not expected to overlap.

The project site is currently vacant and requires no demolition. As a result, the demolition phase has been deleted and the construction phase dates has been updated to indicate site preparation as the first phase of the construction. The project's construction schedule is based on the CalEEMod defaults.

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 and vendor trips and trip lengths, utilize the CalEEMod defaults. The construction equipment list is shown in Table 10.

The quantity of fugitive dust estimated by CalEEMod is based on the number of equipment used during site preparation and grading. CalEEMod estimates the worst-case fugitive dust impacts will occur during the grading phase. The maximum daily disturbance footprint would be 3.5 acres per 8-hour day with all equipment in use.

A soil disturbance rate is applied to tractors/loaders/backhoes as a worst case estimate of fugitive dust emissions and is based on similar type equipment, such as rubber tired dozers and crawler tractors.

Based on recent discussions with SCAQMD, the Fact Sheet for Applying CalEEMod to Localized Significance Thresholds should no longer be used to determine disturbance acreage.

**Table 10**
**Construction Equipment Assumptions Phase [1]**

| Phase | Equipment | Amount | Hours Per Day | Soil Disturbance Rate (Acres/ 8hr-Day) | Equipment Daily Disturbance Footprint (Acres) | Total Phase Daily Disturbance Footprint (Acres) |
|---|---|---|---|---|---|---|
| **Site Preparation** | Rubber Tired Dozers | 3 | 8 | 0.5 | 1.5 | 3.5 |
| | Tractors/Loaders/Backhoes | 4 | 8 | 0.5 | 2.0 | |
| **Grading** | Excavators | 1 | 8 | 0.0 | 0.0 | 2.5 |
| | Graders | 1 | 8 | 0.5 | 0.5 | |
| | Rubber Tired Dozers | 1 | 8 | 0.5 | 0.5 | |
| | Tractors/Loaders/Backhoes | 3 | 8 | 0.5 | 1.5 | |
| **Building Construction** | Cranes | 1 | 7 | 0.0 | 0.0 | 1.3 |
| | Forklifts | 3 | 8 | 0.0 | 0.0 | |
| | Generator Sets | 1 | 8 | 0.0 | 0.0 | |
| | Tractors/Loaders/Backhoes | 3 | 7 | 0.5 | 1.3 | |
| | Welders | 1 | 8 | 0.0 | 0.0 | |
| **Paving** | Cement and Mortar Mixers | 2 | 6 | 0.0 | 0.0 | 0.5 |
| | Pavers | 1 | 8 | 0.0 | 0.0 | |
| | Paving Equipment | 2 | 6 | 0.0 | 0.0 | |
| | Rollers | 2 | 6 | 0.0 | 0.0 | |
| | Tractors/Loaders/Backhoes | 1 | 8 | 0.5 | 0.5 | |
| **Architectural Coating** | Air Compressors | 1 | 6 | 0.0 | 0.0 | 0.0 |

[1] CalEEMod Defaults

## 4.2 Localized Construction Analysis Modeling Parameters

CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily disturbance activity possible for each piece of equipment. This report identifies the following parameters in the project design or applicable mitigation measures in order to compare CalEEMod reported emissions against the localized significance threshold lookup tables:

1) The off-road equipment list (including type of equipment, horsepower, and hours of operation) assumed for the day of construction activity with maximum emissions.
2) The maximum number of acres disturbed on the peak day.
3) Any emission control devices added onto off-road equipment.
4) Specific dust suppression techniques used on the day of construction activity with maximum emissions.

## 4.3 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.

### 4.3.1 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 based on the latest version of the ITE Trip Generation Manual.

Trip summary information is shown in Table 11.

**Table 11**
**Trip Generation Rates**

| Land Use | ITE Code | Units[1] | Daily Trip Rate[2] | | |
|---|---|---|---|---|---|
| | | | Weekday | Saturday | Sunday |
| Self-Storage Facility (Mini Warehouse) | 151 | TSF | 1.51 | 1.95 | 1.89 |

[1] DU = Dwelling Unit; TSF = Thousand Square Feet
[2] Source: ITE Trip Generation Manual 10th Edition

The Emission Factors (EMFAC) 2014 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 12 for this project.

**Table 12**
**Operational Vehicle Miles Traveled**

| Land Use | Annual Vehicle Miles Traveled (VMT) |
|---|---|
| Self-Storage Facility | 956,740 |

[1] CalEEMod Defaults

The operational vehicle fleet mix is shown in Table 13. The fleet mix for the project is based on CalEEMod default.

**Table 13**
**Vehicle Mix for Trips[1]**

| YUY | Vehicle Mix (%) |
|---|---|
| Light Duty Automobile (LDA) | 54.55% |
| Light Duty Truck (LDTI) | 3.69% |
| Light Duty Truck (LDT2) | 18.60% |
| Medium Duty Truck (MDV) | 11.53% |
| Light Heavy Truck (LHD1) | 1.52% |
| Light Heavy Truck (LHD2) | 0.50% |
| Medium Heavy Truck (MHD) | 1.75% |
| Heavy Heavy Truck (HHD) | 6.95% |
| Other Bus (OBUS) | 0.14% |
| Urban Bus (UBUS) | 0.12% |
| Motorcycle (MCY) | 0.45% |
| School Bus (SBUS) | 0.09% |
| Motor Home (MH) | 0.10% |
| **Total** | **100.0%** |

[1] CalEEMod defaults

### 4.3.2 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 14 shows the total annual expected electricity and natural gas usage for the proposed project.

**Table 14**
**Electricity and Natural Gas Usage**

| Land Use | Electricity Usage[1] (KWhr/yr)[2] | Natural Gas Usage[1] (KBTU/yr)[2] |
|---|---|---|
| Self-Storage Facility | 323,785 | 278,510 |

[1] CalEEMod default estimates.

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

### 4.3.3 Area Source Emissions

Area source emissions are direct sources of emissions that fall under four categories; hearths, consumer products, architectural coatings, and landscaping equipment. Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project.

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.

### 4.3.4 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 15 and recommendations to reduce waste generation in landfills are discussed in Section 6.0

**Table 15**
**Operational Water Usage and Waste Generation**

| Land Use | Water Usage (gallons/year) | | | Waste Generation (tons/year)[1] |
|---|---|---|---|---|
| | Indoor | Outdoor | Total | |
| Self-Storage Facility | 31,727,500 | 0 | 31,727,500 | 128.97 |

[1] CalEEMod default estimates.

# 5.0 Significance Thresholds

## 5.1 Air Quality Regional Significance Thresholds

The SCAQMD has established air quality emissions thresholds for criteria air pollutants for the purposes of determining whether a project may have a significant effect on the environment per Section 15002(g) of the Guidelines for implementing CEQA. By complying with the thresholds of significance, the project would be in compliance with the SCAQMD Air Quality Management Plan (AQMP) and the federal and state air quality standards.

Table 16 lists the air quality significance thresholds for the six air pollutants analyzed in this report. Lead is not included as part of this analysis as the project is not expected to emit lead in any significant measurable quantity.

**Table 16**
**SCAQMD Regional Significance Thresholds**

| Pollutant | Construction (lbs/day) | Operation (lbs/day) |
|---|---|---|
| **$NO_X$** | 100 | 55 |
| **VOC** | 75 | 55 |
| **$PM_{10}$** | 150 | 150 |
| **$PM_{2.5}$** | 55 | 55 |
| **$SO_X$** | 150 | 150 |
| **CO** | 550 | 550 |

[1] Source: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf

## 5.2 Air Quality Localized Significance Thresholds

Air quality emissions were analyzed using the SCAQMD's Mass Rate Localized Significant Threshold (LST) Look-up Tables.

Table 17 lists the Localized Significance Thresholds (LST) used to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard.

LSTs are developed based on the ambient concentrations of four applicable air pollutants for source receptor area (SRA-26) – Temecula Valley.

The nearest existing sensitive receptors are located along the northern and eastern property line of the site, less than 25 meters from potential areas of on-site construction and operational activity. Although receptors are located closer than 25 meters to the site, SCAQMD LST methodology states that projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters.

The daily disturbance area is calculated to be 3.5 acres, however LST thresholds are only based on 1, 2 and 5-acre sites. In order to be conservative, a linear progression model was used to estimate the threshold for 3.5-acre site based on the established LST thresholds.

**Table 17**
**SCAQMD Localized Significance Thresholds[1] (LST)**

| Pollutant | Construction (lbs/day) | Operational (lbs/day) |
|---|---|---|
| **$NO_X$** | 297.9 | 297.9 |
| **CO** | 1,521.8 | 1,521.8 |
| **$PM_{10}$** | 9.8 | 2.9 |
| **$PM_{2.5}$** | 6.1 | 1.6 |

[1] Source: SCAQMD Mass Rate Localized Significance Thresholds for 3.5acre site in SRA-26 at 25 meters

## 5.3 Microscale CO Concentration Standards

The significance of localized CO impacts depends on whether ambient CO levels in the vicinity of the project are above or below federal or state standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of the AAQS. If ambient levels already exceed State or federal standards, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more.

Current CO levels in the SCAB are in attainment of both federal and state standards, and local air quality monitoring data indicates there have not been any localized exceedances of CO over the past three years. By complying with the regional and localized significance thresholds, the project would not be expected to cause CO concentrations to exceed the applicable AAQS.

## 5.4 GHG Significance Thresholds

Riverside County is the lead agency under CEQA for the proposed project, and therefore, GHG thresholds of significance are based on the adopted Riverside County Climate Action Plan (CAP). Riverside County adopted the updated CAP in December 2019 in an effort to reduce community-wide GHG emissions. The purpose of the CAP is to adopt a plan that is consistent with and complementary to the GHG emissions reduction efforts being conducted by the State of California through the Global Warming Solutions Act (AB 32).

The implementation mechanisms for the CAP are the Screening Tables for New Development. The Screening Tables allow new development projects a streamlined option for complying with CEQA requirements for addressing GHG emissions. Additionally, Riverside County's Climate Action Plan details policies to reduce emissions from municipal and community-wide sources; including emissions from existing buildings and new development. Projects have the option of preparing a project-specific technical analysis to quantify and mitigate GHG emissions.

- A threshold level above 3,000 MTCO2e per year will be used to identify projects that require the use of Screening Tables or a project-specific technical analysis to quantify and mitigate project emissions.

The screening tables are setup similar to a checklist, with points allocated to certain elements that reduce greenhouse gas emissions. If a project garners 100 points (by including enough GHG reducing elements), then the project is consistent with Riverside County's plan for reducing emissions.

Furthermore, the project will also be required to comply with several efficiency measures including compliance with Title 24 Part 11 of the California Building Standards Code (CALGreen) and Title 24 Part 6 (Energy Code) to further reduce energy usage and GHG emissions through building design and operation. The project will also be required to comply with several water and waste efficiency measures consistent with building code requirements and the County's landscaping standards and waste management agreements.

## 5.5 Riverside County General Plan Air Quality Element

This Riverside County General Plan Air Quality Element establishes goals, policies and programs that are meant to balance the County's actions regarding land use, circulation and other issues with their potential effects on air quality and global climate change.

In order for the project's air quality and GHG impact to be considered less than significant, the project should not conflict with, or obstruct implementation of, the Riverside County General Plan Air Quality Element.

# 6.0 Air Quality Impact Analysis

Consistent with CEQA and the State CEQA Guidelines, a significant impact related to air quality would occur if the proposed project is determined to:

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

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable Federal or State ambient air quality standard.

c) Expose sensitive receptors to substantial pollutant concentrations.

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

## 6.1 Short Term Air Quality Impacts - Construction

### 6.1.1 Regional Emissions - Construction

Regional air quality emissions include both on-site and off-site emissions associated with construction of the project. Regional daily emissions of criteria pollutants are compared to the SCAQMD regional thresholds of significance.

As shown in Table 18, regional daily emissions of criteria pollutants are expected to be below the allowable thresholds of significance.

CalEEMod daily emissions outputs are provided in Appendix A.

**Table 18**
**Regional Construction Emissions**

| Maximum Daily Emissions (lbs/day)[1] | | | | | | |
|---|---|---|---|---|---|---|
| **Activity** | **VOC** | **$NO_x$** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Site Preparation | 5.28 | 96.52 | 30.22 | 0.23 | 13.90 | 7.14 |
| Grading | 2.36 | 24.78 | 16.41 | 0.03 | 3.83 | 2.40 |
| Building Construction | 2.26 | 19.92 | 19.35 | 0.04 | 1.84 | 1.15 |
| Paving | 1.24 | 10.90 | 13.00 | 0.02 | 0.80 | 0.59 |
| Architectural Coating | 71.16 | 1.44 | 2.26 | 0.00 | 0.23 | 0.12 |
| Maximum[1] | 71.16 | 96.52 | 30.22 | 0.23 | 13.90 | 7.14 |
| SCAQMD Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| 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 must follow all standard SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3. Due to the close proximity of the adjacent sensitive receptor, compliance with the standard dust control measures, which are built into the project design and taken into account in the project emissions analysis, are also included as mitigation measures to ensure full compliance.

Table 18 shows that, the project's daily construction emissions will be below the applicable SCAQMD regional air quality standards and thresholds of significance. As a result, the project would not contribute substantially to an existing or projected air quality violation.

Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

**The project's short-term construction impact on regional air resources is less than significant with mitigation.**

### 6.1.2 Localized Emissions - Construction

Table 19 illustrates the construction related localized emissions and compares the results to SCAQMD LST thresholds. As shown in Table 19, the emissions will be below the SCAQMD thresholds of significance for localized construction emissions. The project must follow all standard SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3. Compliance with the dust control is considered a standard requirement and included as part of the project's design features, not mitigation.

**The project's short-term construction impact to localized air resources is less than significant.**

**Table 19**
**Localized Construction Emissions**

| Maximum Daily Emissions (lbs/day)[1] | | | | |
|---|---|---|---|---|
| **Activity** | **NOx** | **CO** | **$PM_{10}$** | **$PM_{2.5}$** |
| On-site Emissions | 40.50 | 21.15 | 9.05 | 5.69 |
| SCAQMD Construction Threshold[2] | 297.9 | 1,521.8 | 9.8 | 6.1 |
| Exceeds Threshold (?) | **No** | **No** | **No** | **No** |

[1] Maximum daily emission during summer or winter; includes on-site project emissions only.
[2] Reference 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation. SRA-26, Temecula Valley, 3.5-acre site, receptor distance 25 meters.

### 6.1.3 Fugitive Dust - Construction

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. SCAQMD 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, SCAQMD Rules 402 and 403 require implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

To ensure full compliance with the applicable dust control standards, the following mitigation measures is recommended for the project:

**MM-1** The project must follow the standard SCAQMD rules and requirements with regards to fugitive dust control, which includes, but are not limited to the following:

1. All active construction areas shall be watered two (2) times daily.
2. Speed on unpaved roads shall be reduced to less than 15 mph.
3. Any visible dirt deposition on any public roadway shall be swept or washed at the site access points within 30 minutes.
4. Any on-site stockpiles of debris, dirt or other dusty material shall be covered or watered twice daily.
5. All operations on any unpaved surface shall be suspended if winds exceed 15 mph.
6. Access points shall be washed or swept daily.
7. Construction sites shall be sandbagged for erosion control.
8. Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
9. Cover all trucks hauling dirt, sand, soil, or other loose materials, and maintain at least 2 feet of freeboard space in accordance with the requirements of California Vehicle Code (CVC) section 23114.
10. Pave or gravel construction access roads at least 100 feet onto the site from the main road and use gravel aprons at truck exits.
11. Replace the ground cover of disturbed areas as quickly possible.
12. A fugitive dust control plan should be prepared and submitted to SCAQMD prior to the start of construction.

Localized construction emissions, shown in Section 6.1.2, indicate daily construction emissions, with standard control measures, would be below the applicable thresholds established by the SCAQMD. **The proposed project's short-term construction activities would cause less than significant Fugitive Dust impacts.**

### 6.1.4 Odors - Construction

Heavy-duty equipment in the project area during construction will emit odors; however, the construction activity would cease to occur after individual construction is completed. The project is required to comply with Rule 402 during construction, which states 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. No other sources of objectionable odors have been identified for the proposed Project.

**Therefore, the project impact from odor emissions is less than significant.**

### 6.1.5 Asbestos - Construction

Based on the California Division of Mines and Geology General Location Guide for Ultramafic Rocks in California - Areas More Likely to Contain Naturally Occurring Asbestos, naturally occurring asbestos, found in serpentine and ultramafic rock, has not been shown to occur within in the vicinity of the project site. Therefore, the potential risk for naturally occurring asbestos (NOA) during project construction is small. However, in the event NOA is found on the site, the project will be required to comply with the National Emission Standard for Hazardous Air Pollutants (NESHAP) standards. An Asbestos NESHAP Notification Form shall be completed and submitted to the CARB immediately upon discovery of the contaminant. The project will be required to follow NESHAP standards for emissions control during site renovation, waste transport and waste disposal. A person certified in asbestos removal procedures will be required to supervise on-site activities.

By following the required asbestos abatement protocols, **the project impact is less than significant**.

### 6.1.6 Diesel Particulate Matter - Construction

The greatest potential for toxic air contaminant emissions from the project would be related to diesel particulate matter (DPM) emissions associated with heavy diesel equipment used during construction. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of "individual cancer risk". "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of toxic air contaminants over a 30-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

As shown in Tables 18 and 19, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed regional or local thresholds. Given the short-term construction schedule, the proposed project's construction activity is not expected to be a long-term (i.e., 30 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk.

However, it should be noted that a quantified diesel health risk assessment (HRA) was not included within the scope of this analysis. In September 2000, the CARB adopted the Diesel Risk Reduction Plan, which recommends several control measures to reduce the risks associated with diesel particulate matter (DPM). The key elements of the Plan are to clean up existing engines through engine retrofit emission control devices, to adopt stringent standards for new diesel engines, to lower the sulfur content of diesel fuel, and implement advanced technology emission control devices on diesel engines.

The project is located adjacent to a residential use, therefore, in order to ensure the level of DPM exposure is reduced as much as possible, the project shall implement the following mitigation measures to reduce diesel particulate emissions and potential health risks to adjacent residents:

**MM-2** All diesel-powered off-road construction equipment with 25 horsepower or greater shall be equipped with Tier 4 engines. Prior to issuance of the grading permit, the contractor must demonstrate the ability to supply the compliant construction equipment.

Tier 4 engines, along with the latest national fuel standards, will yield PM reductions of over 95% from the typical Tier 2 and Tier 3 engines[5]. Given the relative size of the project, the short-term duration of construction, and the substantial reduction in particulate exhaust from the implementation of Tier 4 engines, the potential risk exposure from off-road construction equipment to the nearest adjacent sensitive receptors can be reasonably considered to have a less than significant without the need for a full health risk assessment study.

Additionally, due to the close proximity of the adjacent sensitive residential use, the following best available pollution control strategies should be included as part of the construction management plan to help further minimize potential exposure to substantial pollution concentrations. The following construction best practices are recommended as project mitigation:

**MM-3** Prepare and implement a Construction Management Plan which will include Best Available Control Measures to be submitted to the County of Riverside.

**MM-4** Construction equipment shall be maintained in proper tune.

[5] EPA. Control of Emissions of Air Pollution from Nonroad Diesel Engines and Fuel; Final Rule. (40 CFR Parts 9, 69, et al.)

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

**MM-6** Minimize the simultaneous operation of multiple construction equipment units.

**MM-7** The use of heavy construction equipment and earthmoving activity should be suspended during Air Alerts when the Air Quality Index reaches the "Unhealthy" level.

**MM-8** Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

**MM-9** Establish staging areas for the construction equipment that are as distant as possible from adjacent sensitive receptors (residential land uses).

**MM-10** Use haul trucks with on-road engines instead of off-road engines for on-site hauling.

**MM-11** Utilize low VOC and no VOC paints and solvents, where feasible.

## 6.2 Long Term Air Quality Impacts - Operation

### 6.2.1 Regional Emissions - Operation

Long-term operational air pollutant impacts from the project are shown in Table 20. The project is not expected to exceed any of the allowable daily emissions thresholds for criteria pollutants at the regional level. CalEEMod daily emissions outputs are provided in Appendix A.

The project's daily operational emissions will be below the applicable SCAQMD regional air quality standards and thresholds of significance, and the project would not contribute substantially to an existing or projected air quality violation. Furthermore, by complying with the SCAQMD standards, the project would not contribute to a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

**The project related long-term air quality impacts are less than significant.**

**Table 20**
**Regional Operational Emissions**

| Maximum Daily Emissions (lbs/day)[1] | | | | | | |
|---|---|---|---|---|---|---|
| **Activity** | **VOC** | **$NO_x$** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Mobile Sources | 0.54 | 4.02 | 7.29 | 0.03 | 2.47 | 0.67 |
| Energy Sources | 0.01 | 0.07 | 0.06 | 0.00 | 0.01 | 0.01 |
| Area Sources | 3.07 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 |
| **Total** | 3.63 | 4.10 | 7.37 | 0.03 | 2.47 | 0.68 |
| SCAQMD Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| 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.

### 6.2.2 Localized Operational Emissions - Operation

Table 21 shows the localized operational emissions and compares the results to SCAQMD Localized Significance Thresholds (LST) thresholds of significance. As shown in Table 21, the emissions will be below the SCAQMD thresholds of significance for localized operational emissions. **The project will result in less than significant localized operational emissions impacts.**

**Table 21**
**Localized Operational Emissions**

| Maximum Daily Emissions (lbs/day)[1] | | | | |
|---|---|---|---|---|
| **LST Pollutants** | NOx (lbs/day) | CO (lbs/day) | $PM_{10}$ (lbs/day) | $PM_{2.5}$ (lbs/day) |
| On-site Emissions[2] | 0.28 | 0.44 | 0.13 | 0.04 |
| SCAQMD Operation Threshold[3] | 297.9 | 1,521.8 | 2.9 | 1.6 |
| Exceeds Threshold (?) | **No** | **No** | **No** | **No** |

[1] Maximum daily emission in summer or winter.
[2] Mobile source emissions include on-site vehicle emissions only. It is estimated that approximately 5% of mobile emissions will occur on the project site compared to average CalEEMod trip length.
[3] Reference: 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation Table C-1 through C-6; SRA 26, Temecula Valley, disturbance area of 3.5-acre and receptor distance of 25 meters.

### 6.2.3 Odors - Operation

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 self-storage project does not contain land uses that would typically be associated with significant odor emissions.

The project will be required to comply with standard building code requirements related to exhaust ventilation, as well as comply with SCAQMD Rule 402. Rule 402 requires that a person may 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. Project related odors are not expected to meet the criteria of being a nuisance. **The project's operation would result in less than significant odor impacts.**

### 6.2.4 Toxic Air Contaminants - Operations

The project would consist of commercial mini-self storage. This type of project does not include major sources of toxic air contaminants (TAC) emissions that would result in significant exposure of sensitive receptors to substantial pollutant concentrations. Therefore, **the project impact is considered less than significant.**

## 6.3 CO Hot Spot Emissions

A CO hot spot is a localized concentration of carbon monoxide (CO) that is above the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. At the time of the publishing of the 1993 CEQA Air Quality Handbook, the SCAB was designated nonattainment, and projects were required to perform hot spot analyses to ensure they did not exacerbate an existing problem. Since this time, the SCAB has achieved attainment status and the potential for hot spots caused by vehicular traffic congestion has been greatly reduced. In fact, the SCAQMD Air Quality Management Plan (AQMP) found that peak CO concentrations were primarily the result of unusual meteorological and topographical conditions, not traffic congestion.

Based on the ITE Trip Generation Manual, 10th Edition, the project is expected to generate a maximum of 23 trips during the peak hour of the day. This is considered a less than significant amount of traffic, which would not contribute to CO Hot Spots, hence the project did not even warrant a full traffic impact study per County standards.

The 2003 SCAQMD AQMP found that at four of the busiest intersections in Los Angeles there were no CO hot spots concentrations. Additionally, historical data indicates that the maximum concentration of CO recorded over the last three years at the nearest air monitoring station to the site is about 92% below the State 1-hour standard and 91% below the 8-hour standard.

Therefore, if the busiest intersections in the basin do not exceed state or federal standards, and the nearest air monitoring station shows that CO levels are well below the standards in the project vicinity, it is then reasonable to conclude that the project would not significantly contribute to the formation of CO Hot Spots.

## 6.4 Health Impacts of Criteria Air Pollutants

The purpose of this discussion is to set forth the issues regarding the potential harmful effects of criteria pollutants on human health. The EPA sets National Ambient Air Quality Standards (NAAQS), and the State of California sets their own more stringent Ambient Air Quality Standards (CAAQS) for six principal criteria air pollutants—nitrogen dioxide, sulfur dioxide, particulate matter, carbon monoxide, ozone and lead—all of which have been shown to be harmful to public health and the environment. The potential health impacts from exposure to criteria air pollutants are discussed in Section 2.0.

To help attain compliance with the NAAQS and CAAQS, the SCAQMD is responsible for adopting an Air Quality Management Plan (AQMP) and has established mass daily thresholds of significance for criteria air pollutants for purposes of protecting public health.

Therefore, by complying with the adopted SCAQMD thresholds of significance, the project is not expected to cause a significant impact to public health.

## 6.5 SCAQMD Air Quality Management Plan Consistency

CEQA requires a discussion of any inconsistencies between a proposed project and applicable General Plans and Regional Plans (CEQA Guidelines Section 15125). The regional plan that applies to the proposed project includes the SCAQMD AQMP.

Therefore, this section discusses any potential inconsistencies in the proposed project with the AQMP.

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

The SCAQMD CEQA Handbook states that "New or amended General Plan Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP." Strict consistency with all aspects of the plan is usually not required. A proposed project should be considered to be consistent with the AQMP if it furthers one or more policies and does not obstruct other policies.

The SCAQMD CEQA Handbook identifies two key indicators of consistency:

(1) Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.

(2) Whether the project will exceed the assumptions in the AQMP in 2016 or increments based on the year of project buildout and phase.

### 6.5.1 Criterion 1 - Increase in the Frequency or Severity of Violations

The results of the short-term construction emission levels and long-term operational emission levels show that the project would not result in significant impacts based on the SCAQMD regional and local thresholds of significance. Therefore, the proposed project would not contribute to the exceedance of an air pollutant concentration standard and is found to be consistent with the AQMP for the first criterion.

### 6.5.2 Criterion 2 - Exceed Assumptions in the AQMP

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to

ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2016-2040 Regional Transportation/Sustainable Communities Strategy, prepared by the Southern California Association of Governments (SCAG), 2016, includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

The project is consistent with the land use requirements in the Riverside County Zoning Ordinance for C-1/C-P (General Commercial). The project land uses are also consistent with the Southwest Area Plan. As a result, the project is not expected to significantly increase emissions compared to what is currently allowed and projected in the AQMP for this region. The project is considered to be consistent with the AQMP and the impact is less than significant. As shown in the regional and localized emissions analysis, the project is below the SCAQMD thresholds of significant for cumulative impacts. **The impact is considered less than significant.**

# 7.0 Greenhouse Gas Impact Analysis

Consistent with CEQA Guidelines, a significant impact related to greenhouse gas would occur if the proposed project is determined to:

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

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

## 7.1 Greenhouse Gas Emissions - Construction

Greenhouse gas emissions are estimated for on-site and off-site construction activity using CalEEMod. Table 22 shows the construction greenhouse gas emissions, including equipment and worker vehicle emissions for all phases of construction. Construction emissions are averaged over 30 years and added to the long-term operational emissions, pursuant to SCAQMD recommendations.

CalEEMod annual GHG output calculations are provided in Appendix B.

**Table 22**
**Construction Greenhouse Gas Emissions**

| Activity | Emissions ($MTCO_2e$)[1] | | |
|---|---|---|---|
| | On-site | Off-site | Total |
| Site Preparation | 8.43 | 46.35 | 54.78 |
| Grading | 10.51 | 0.53 | 11.04 |
| Building Construction | 267.99 | 135.73 | 403.72 |
| Paving | 14.85 | 1.60 | 16.45 |
| Architectural Coating | 2.30 | 1.00 | 3.30 |
| **Total** | 304.08 | 185.21 | 489.29 |
| **Amortized over 30 years**[2] | 10.14 | 6.17 | 16.31 |

[1] $MTCO_2e$ = metric tons of carbon dioxide equivalents (includes carbon dioxide, methane, nitrous oxide, and/or hydrofluorocarbon).
[2] The emissions are amortized over 30 years and added to the operational emissions, pursuant to SCAQMD recommendations.

Because impacts from construction activities occur over a relatively short-term period of time, they contribute a relatively small portion of the overall lifetime project GHG emissions. By itself, the construction activities from this project are less than significant when compared to the thresholds recommended by SCAQMD. However, SCAQMD recommends that construction emissions be amortized over a 30-year project lifetime and added to the overall project operational emissions. In doing so, construction GHG emissions are included in the overall contribution of the project, as further discussed in the following section.

## 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 23. CalEEMod annual GHG output calculations are provided in Appendix B.

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

| Emission Source | GHG Emissions ($MTCO_2e$)[1] |
|---|---|
| Mobile Source | 425.57 |
| Energy Source | 118.48 |
| Area Source | 0.00 |
| Water | 175.29 |
| Waste | 64.86 |
| Construction (30-year average) | 16.31 |
| **Total Annual Emissions** | **800.51** |
| Riverside County CAP Threshold[2] | 3,000 |
| Exceed Riverside County CAP Threshold? | No |

[1] $MTCO_2e$ = metric tons of carbon dioxide equivalents
[2] Per Riverside County Climate Action Plan screening threshold levels for small projects.

As shown in Table 27, the project GHG emissions are expected to be below the County's GHG emissions threshold of 3,000 $MTCO_2e$.

**The project related long-term GHG impacts are less than significant.**

## 7.3 Riverside County Climate Action Plan Consistency

The Riverside County Climate Action Plan (CAP) establishes a threshold of significance of 3,000 MTCO2e for land use development projects. Projects that exceed the CAP threshold may result in a potentially significant GHG impact and would require the use of Screening Tables to mitigate the project emissions.

The screening tables are setup similar to a checklist, with points allocated to certain elements of the project that would contribute to reduced greenhouse gas emissions. If a project garners 100 points (by including enough GHG reducing elements), then the project is consistent with Riverside County's plan for reducing emissions.

Based on the results of the quantified GHG emissions analysis, the proposed project would not exceed the CAP threshold of significance. Thus, implementation of the screening tables is not required and the project would be considered consistent with the CAP and the impact is less than significant.

Furthermore, the project will also be required to comply with the mandatory requirements of Title 24 part 11 of the California Building Standards Code (CALGreen) and Title 24 Part 6 Building Efficiency Standards to further reduce energy usage and GHG emissions. CALGreen and building code compliance are considered part of the project's design features.

By complying with the goals and policies of the CAP, the project will also be in compliant with the broader statewide goals for combating climate change; such as those required in the CARB Scooping Plan and SB 32. The purpose of the County's CAP is to ensure compliance with the state's climate initiatives for reducing GHG emissions.

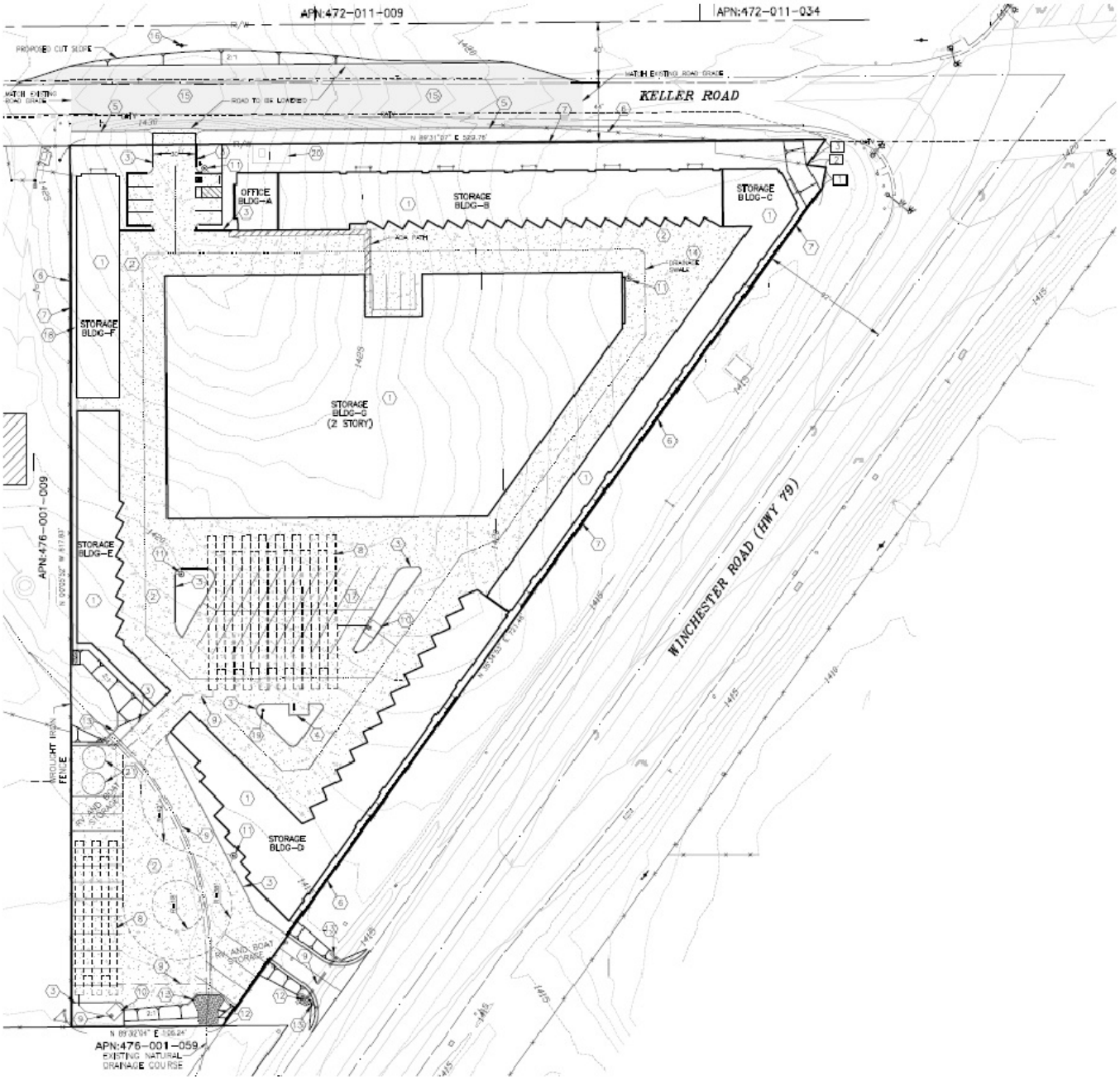
Therefore, the project will not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of greenhouse gases and the impact is considered less than significant.

# Exhibits

Exhibit A
# Location Map


N

Exhibit B
# Site Plan




N

# Appendices

# Appendix A

Daily Emissions Calculations Output
(CalEEMod)

# Temecula Valley Self-Storage AQ & GHG Study

**Riverside-South Coast County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 137.20 | 1000sqft | 4.60 | 137,197.00 | 0 |
| Other Asphalt Surfaces | 15.53 | 1000sqft | 0.36 | 15,530.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2022 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 702.44 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Project Characteristics -

Land Use - The project proposes to construct and operate a self-storage facility with approximately 137,197 square feet of building area on approximately 4.6 acre lot.

Construction Phase - The project site is currently vacant and requires no demolition.

Grading - The site requires grading and import of approximately 10,230 cubic yards of fill material during grading phase.

Vehicle Trips - Trip generation rates are based on the ITE Trip Generation Manual 10th edition.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0 | 12 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | PhaseEndDate | 2/23/2022 | 1/26/2022 |
| tblConstructionPhase | PhaseEndDate | 1/4/2022 | 12/7/2021 |
| tblConstructionPhase | PhaseEndDate | 2/16/2021 | 1/19/2021 |
| tblConstructionPhase | PhaseEndDate | 1/28/2022 | 12/31/2021 |
| tblConstructionPhase | PhaseEndDate | 2/4/2021 | 1/7/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2022 | 1/1/2022 |
| tblConstructionPhase | PhaseStartDate | 2/17/2021 | 1/20/2021 |
| tblConstructionPhase | PhaseStartDate | 2/5/2021 | 1/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/5/2022 | 12/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2021 | 1/1/2021 |
| tblGrading | MaterialImported | 0.00 | 10,230.00 |
| tblLandUse | LotAcreage | 3.15 | 4.60 |
| tblVehicleTrips | ST_TR | 1.68 | 1.95 |
| tblVehicleTrips | SU_TR | 1.68 | 1.89 |
| tblVehicleTrips | WD_TR | 1.68 | 1.51 |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 5.2187 | 96.1454 | 29.1311 | 0.2326 | 23.0011 | 2.2149 | 25.2160 | 11.2498 | 2.0440 | 13.2938 | 0.0000 | 24,324.3024 | 24,324.3024 | 2.3842 | 0.0000 | 24,383.9078 |
| 2022 | 71.1589 | 1.4401 | 2.2569 | 4.3100e-003 | 0.1453 | 0.0826 | 0.2279 | 0.0385 | 0.0825 | 0.1210 | 0.0000 | 414.8080 | 414.8080 | 0.0213 | 0.0000 | 415.3403 |
| **Maximum** | **71.1589** | **96.1454** | **29.1311** | **0.2326** | **23.0011** | **2.2149** | **25.2160** | **11.2498** | **2.0440** | **13.2938** | **0.0000** | **24,324.3024** | **24,324.3024** | **2.3842** | **0.0000** | **24,383.9078** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 5.2187 | 96.1454 | 29.1311 | 0.2326 | 11.6852 | 2.2149 | 13.9001 | 5.0934 | 2.0440 | 7.1374 | 0.0000 | 24,324.3024 | 24,324.3024 | 2.3842 | 0.0000 | 24,383.9078 |
| 2022 | 71.1589 | 1.4401 | 2.2569 | 4.3100e-003 | 0.1453 | 0.0826 | 0.2279 | 0.0385 | 0.0825 | 0.1210 | 0.0000 | 414.8080 | 414.8080 | 0.0213 | 0.0000 | 415.3403 |
| **Maximum** | **71.1589** | **96.1454** | **29.1311** | **0.2326** | **11.6852** | **2.2149** | **13.9001** | **5.0934** | **2.0440** | **7.1374** | **0.0000** | **24,324.3024** | **24,324.3024** | **2.3842** | **0.0000** | **24,383.9078** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **48.89** | **0.00** | **44.47** | **54.54** | **0.00** | **45.89** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Energy | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| Mobile | 0.5438 | 4.0022 | 7.2888 | 0.0320 | 2.4452 | 0.0209 | 2.4661 | 0.6542 | 0.0196 | 0.6738 | | 3,265.9476 | 3,265.9476 | 0.1398 | | 3,269.4436 |
| **Total** | **3.6251** | **4.0772** | **7.3672** | **0.0325** | **2.4452** | **0.0267** | **2.4718** | **0.6542** | **0.0253** | **0.6795** | | **3,355.7506** | **3,355.7506** | **0.1417** | **1.6500e-003** | **3,359.7822** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Energy | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| Mobile | 0.5438 | 4.0022 | 7.2888 | 0.0320 | 2.4452 | 0.0209 | 2.4661 | 0.6542 | 0.0196 | 0.6738 | | 3,265.9476 | 3,265.9476 | 0.1398 | | 3,269.4436 |
| **Total** | **3.6251** | **4.0772** | **7.3672** | **0.0325** | **2.4452** | **0.0267** | **2.4718** | **0.6542** | **0.0253** | **0.6795** | | **3,355.7506** | **3,355.7506** | **0.1417** | **1.6500e-003** | **3,359.7822** |

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

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 1/1/2021 | 1/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 1/8/2021 | 1/19/2021 | 5 | 8 | |
| 3 | Building Construction | Building Construction | 1/20/2021 | 12/7/2021 | 5 | 230 | |
| 4 | Paving | Paving | 12/8/2021 | 12/31/2021 | 5 | 18 | |
| 5 | Architectural Coating | Architectural Coating | 1/1/2022 | 1/26/2022 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4**

**Acres of Paving: 0.36**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,796; Non-Residential Outdoor: 68,599; Striped Parking Area: 932 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |

## Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 1,279.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 64.00 | 25.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Site Preparation - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 18.3254 | 0.0000 | 18.3254 | 9.9699 | 0.0000 | 9.9699 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **18.3254** | **2.0445** | **20.3698** | **9.9699** | **1.8809** | **11.8508** | | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 3.2 Site Preparation - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.2452 | 55.5997 | 7.3114 | 0.1926 | 4.4745 | 0.1693 | 4.6438 | 1.2266 | 0.1620 | 1.3885 | | 20,446.9903 | 20,446.9903 | 1.1876 | | 20,476.6811 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0853 | 0.0486 | 0.6655 | 1.9200e-003 | 0.2012 | 1.1900e-003 | 0.2024 | 0.0534 | 1.0900e-003 | 0.0545 | | 191.6552 | 191.6552 | 4.5700e-003 | | 191.7694 |
| **Total** | **1.3305** | **55.6483** | **7.9768** | **0.1946** | **4.6757** | **0.1705** | **4.8462** | **1.2799** | **0.1631** | **1.4430** | | **20,638.6455** | **20,638.6455** | **1.1922** | | **20,668.4505** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.0095 | 0.0000 | 7.0095 | 3.8135 | 0.0000 | 3.8135 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | 0.0000 | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **7.0095** | **2.0445** | **9.0539** | **3.8135** | **1.8809** | **5.6944** | **0.0000** | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 3.2 Site Preparation - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.2452 | 55.5997 | 7.3114 | 0.1926 | 4.4745 | 0.1693 | 4.6438 | 1.2266 | 0.1620 | 1.3885 | | 20,446.9903 | 20,446.9903 | 1.1876 | | 20,476.6811 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0853 | 0.0486 | 0.6655 | 1.9200e-003 | 0.2012 | 1.1900e-003 | 0.2024 | 0.0534 | 1.0900e-003 | 0.0545 | | 191.6552 | 191.6552 | 4.5700e-003 | | 191.7694 |
| **Total** | **1.3305** | **55.6483** | **7.9768** | **0.1946** | **4.6757** | **0.1705** | **4.8462** | **1.2799** | **0.1631** | **1.4430** | | **20,638.6455** | **20,638.6455** | **1.1922** | | **20,668.4505** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.5523 | 0.0000 | 6.5523 | 3.3675 | 0.0000 | 3.3675 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **6.5523** | **1.1599** | **7.7123** | **3.3675** | **1.0671** | **4.4346** | | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

## 3.3 Grading - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0711 | 0.0405 | 0.5546 | 1.6000e-003 | 0.1677 | 9.9000e-004 | 0.1687 | 0.0445 | 9.1000e-004 | 0.0454 | | 159.7126 | 159.7126 | 3.8100e-003 | | 159.8078 |
| **Total** | **0.0711** | **0.0405** | **0.5546** | **1.6000e-003** | **0.1677** | **9.9000e-004** | **0.1687** | **0.0445** | **9.1000e-004** | **0.0454** | | **159.7126** | **159.7126** | **3.8100e-003** | | **159.8078** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 2.5063 | 0.0000 | 2.5063 | 1.2881 | 0.0000 | 1.2881 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | 0.0000 | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **2.5063** | **1.1599** | **3.6662** | **1.2881** | **1.0671** | **2.3552** | **0.0000** | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0711 | 0.0405 | 0.5546 | 1.6000e-003 | 0.1677 | 9.9000e-004 | 0.1687 | 0.0445 | 9.1000e-004 | 0.0454 | | 159.7126 | 159.7126 | 3.8100e-003 | | 159.8078 |
| **Total** | **0.0711** | **0.0405** | **0.5546** | **1.6000e-003** | **0.1677** | **9.9000e-004** | **0.1687** | **0.0445** | **9.1000e-004** | **0.0454** | | **159.7126** | **159.7126** | **3.8100e-003** | | **159.8078** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0584 | 2.3135 | 0.4128 | 6.4800e-003 | 0.1601 | 4.4000e-003 | 0.1645 | 0.0461 | 4.2100e-003 | 0.0503 | | 683.1276 | 683.1276 | 0.0489 | | 684.3493 |
| Worker | 0.3034 | 0.1729 | 2.3662 | 6.8400e-003 | 0.7154 | 4.2200e-003 | 0.7196 | 0.1897 | 3.8800e-003 | 0.1936 | | 681.4406 | 681.4406 | 0.0163 | | 681.8468 |
| **Total** | **0.3618** | **2.4863** | **2.7789** | **0.0133** | **0.8755** | **8.6200e-003** | **0.8841** | **0.2358** | **8.0900e-003** | **0.2439** | | **1,364.5681** | **1,364.5681** | **0.0651** | | **1,366.1961** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | 0.0000 | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | **0.0000** | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 3.4 Building Construction - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0584 | 2.3135 | 0.4128 | 6.4800e-003 | 0.1601 | 4.4000e-003 | 0.1645 | 0.0461 | 4.2100e-003 | 0.0503 | | 683.1276 | 683.1276 | 0.0489 | | 684.3493 |
| Worker | 0.3034 | 0.1729 | 2.3662 | 6.8400e-003 | 0.7154 | 4.2200e-003 | 0.7196 | 0.1897 | 3.8800e-003 | 0.1936 | | 681.4406 | 681.4406 | 0.0163 | | 681.8468 |
| **Total** | **0.3618** | **2.4863** | **2.7789** | **0.0133** | **0.8755** | **8.6200e-003** | **0.8841** | **0.2358** | **8.0900e-003** | **0.2439** | | **1,364.5681** | **1,364.5681** | **0.0651** | | **1,366.1961** |

## 3.5 Paving - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0940 | 10.8399 | 12.2603 | 0.0189 | | 0.5788 | 0.5788 | | 0.5342 | 0.5342 | | 1,804.5523 | 1,804.5523 | 0.5670 | | 1,818.7270 |
| Paving | 0.0524 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1464** | **10.8399** | **12.2603** | **0.0189** | | **0.5788** | **0.5788** | | **0.5342** | **0.5342** | | **1,804.5523** | **1,804.5523** | **0.5670** | | **1,818.7270** |

## 3.5 Paving - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0948 | 0.0540 | 0.7394 | 2.1400e-003 | 0.2236 | 1.3200e-003 | 0.2249 | 0.0593 | 1.2100e-003 | 0.0605 | | 212.9502 | 212.9502 | 5.0800e-003 | | 213.0771 |
| **Total** | **0.0948** | **0.0540** | **0.7394** | **2.1400e-003** | **0.2236** | **1.3200e-003** | **0.2249** | **0.0593** | **1.2100e-003** | **0.0605** | | **212.9502** | **212.9502** | **5.0800e-003** | | **213.0771** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0940 | 10.8399 | 12.2603 | 0.0189 | | 0.5788 | 0.5788 | | 0.5342 | 0.5342 | 0.0000 | 1,804.5523 | 1,804.5523 | 0.5670 | | 1,818.7270 |
| Paving | 0.0524 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1464** | **10.8399** | **12.2603** | **0.0189** | | **0.5788** | **0.5788** | | **0.5342** | **0.5342** | **0.0000** | **1,804.5523** | **1,804.5523** | **0.5670** | | **1,818.7270** |

## 3.5 Paving - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0948 | 0.0540 | 0.7394 | 2.1400e-003 | 0.2236 | 1.3200e-003 | 0.2249 | 0.0593 | 1.2100e-003 | 0.0605 | | 212.9502 | 212.9502 | 5.0800e-003 | | 213.0771 |
| **Total** | **0.0948** | **0.0540** | **0.7394** | **2.1400e-003** | **0.2236** | **1.3200e-003** | **0.2249** | **0.0593** | **1.2100e-003** | **0.0605** | | **212.9502** | **212.9502** | **5.0800e-003** | | **213.0771** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 70.8967 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **71.1012** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0577 | 0.0316 | 0.4433 | 1.3400e-003 | 0.1453 | 8.3000e-004 | 0.1461 | 0.0385 | 7.7000e-004 | 0.0393 | | 133.3600 | 133.3600 | 2.9600e-003 | | 133.4341 |
| **Total** | **0.0577** | **0.0316** | **0.4433** | **1.3400e-003** | **0.1453** | **8.3000e-004** | **0.1461** | **0.0385** | **7.7000e-004** | **0.0393** | | **133.3600** | **133.3600** | **2.9600e-003** | | **133.4341** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 70.8967 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | 0.0000 | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **71.1012** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | **0.0000** | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

### 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0577 | 0.0316 | 0.4433 | 1.3400e-003 | 0.1453 | 8.3000e-004 | 0.1461 | 0.0385 | 7.7000e-004 | 0.0393 | | 133.3600 | 133.3600 | 2.9600e-003 | | 133.4341 |
| **Total** | **0.0577** | **0.0316** | **0.4433** | **1.3400e-003** | **0.1453** | **8.3000e-004** | **0.1461** | **0.0385** | **7.7000e-004** | **0.0393** | | **133.3600** | **133.3600** | **2.9600e-003** | | **133.4341** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.5438 | 4.0022 | 7.2888 | 0.0320 | 2.4452 | 0.0209 | 2.4661 | 0.6542 | 0.0196 | 0.6738 | | 3,265.9476 | 3,265.9476 | 0.1398 | | 3,269.4436 |
| Unmitigated | 0.5438 | 4.0022 | 7.2888 | 0.0320 | 2.4452 | 0.0209 | 2.4661 | 0.6542 | 0.0196 | 0.6738 | | 3,265.9476 | 3,265.9476 | 0.1398 | | 3,269.4436 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |
| Total | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |
| Unrefrigerated Warehouse-No Rail | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| NaturalGas Unmitigated | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 763.041 | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| **Total** | | **8.2300e-003** | **0.0748** | **0.0628** | **4.5000e-004** | | **5.6900e-003** | **5.6900e-003** | | **5.6900e-003** | **5.6900e-003** | | **89.7695** | **89.7695** | **1.7200e-003** | **1.6500e-003** | **90.3030** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 0.763041 | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| **Total** | | **8.2300e-003** | **0.0748** | **0.0628** | **4.5000e-004** | | **5.6900e-003** | **5.6900e-003** | | **5.6900e-003** | **5.6900e-003** | | **89.7695** | **89.7695** | **1.7200e-003** | **1.6500e-003** | **90.3030** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Unmitigated | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.3496 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 2.7220 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.4500e-003 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| **Total** | **3.0731** | **1.4000e-004** | **0.0156** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | | **0.0334** | **0.0334** | **9.0000e-005** | | **0.0356** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.3496 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 2.7220 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.4500e-003 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| **Total** | **3.0731** | **1.4000e-004** | **0.0156** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | | **0.0334** | **0.0334** | **9.0000e-005** | | **0.0356** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Temecula Valley Self-Storage AQ & GHG Study

**Riverside-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 137.20 | 1000sqft | 4.60 | 137,197.00 | 0 |
| Other Asphalt Surfaces | 15.53 | 1000sqft | 0.36 | 15,530.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2022 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 702.44 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Project Characteristics -

Land Use - The project proposes to construct and operate a self-storage facility with approximately 137,197 square feet of building area on approximately 4.6 acre lot.

Construction Phase - The project site is currently vacant and requires no demolition.

Grading - The site requires grading and import of approximately 10,230 cubic yards of fill material during grading phase.

Vehicle Trips - Trip generation rates are based on the ITE Trip Generation Manual 10th edition.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

Temecula Valley Self-Storage AQ & GHG Study - Riverside-South Coast County, Winter

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0 | 12 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | PhaseEndDate | 2/23/2022 | 1/26/2022 |
| tblConstructionPhase | PhaseEndDate | 1/4/2022 | 12/7/2021 |
| tblConstructionPhase | PhaseEndDate | 2/16/2021 | 1/19/2021 |
| tblConstructionPhase | PhaseEndDate | 1/28/2022 | 12/31/2021 |
| tblConstructionPhase | PhaseEndDate | 2/4/2021 | 1/7/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2022 | 1/1/2022 |
| tblConstructionPhase | PhaseStartDate | 2/17/2021 | 1/20/2021 |
| tblConstructionPhase | PhaseStartDate | 2/5/2021 | 1/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/5/2022 | 12/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2021 | 1/1/2021 |
| tblGrading | MaterialImported | 0.00 | 10,230.00 |
| tblLandUse | LotAcreage | 3.15 | 4.60 |
| tblVehicleTrips | ST_TR | 1.68 | 1.95 |
| tblVehicleTrips | SU_TR | 1.68 | 1.89 |
| tblVehicleTrips | WD_TR | 1.68 | 1.51 |

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 5.2822 | 96.5239 | 30.2202 | 0.2275 | 23.0011 | 2.2174 | 25.2185 | 11.2498 | 2.0463 | 13.2962 | 0.0000 | 23,790.8583 | 23,790.8583 | 2.4953 | 0.0000 | 23,853.2401 |
| 2022 | 71.1580 | 1.4412 | 2.1709 | 4.1700e-003 | 0.1453 | 0.0826 | 0.2279 | 0.0385 | 0.0825 | 0.1210 | 0.0000 | 401.0921 | 401.0921 | 0.0209 | 0.0000 | 401.6147 |
| **Maximum** | **71.1580** | **96.5239** | **30.2202** | **0.2275** | **23.0011** | **2.2174** | **25.2185** | **11.2498** | **2.0463** | **13.2962** | **0.0000** | **23,790.8583** | **23,790.8583** | **2.4953** | **0.0000** | **23,853.2401** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2021 | 5.2822 | 96.5238 | 30.2202 | 0.2275 | 11.6852 | 2.2174 | 13.9026 | 5.0934 | 2.0463 | 7.1397 | 0.0000 | 23,790.8583 | 23,790.8583 | 2.4953 | 0.0000 | 23,853.2401 |
| 2022 | 71.1580 | 1.4412 | 2.1709 | 4.1700e-003 | 0.1453 | 0.0826 | 0.2279 | 0.0385 | 0.0825 | 0.1210 | 0.0000 | 401.0921 | 401.0921 | 0.0209 | 0.0000 | 401.6147 |
| **Maximum** | **71.1580** | **96.5238** | **30.2202** | **0.2275** | **11.6852** | **2.2174** | **13.9026** | **5.0934** | **2.0463** | **7.1397** | **0.0000** | **23,790.8583** | **23,790.8583** | **2.4953** | **0.0000** | **23,853.2401** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **48.89** | **0.00** | **44.47** | **54.54** | **0.00** | **45.88** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Energy | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| Mobile | 0.4650 | 4.0202 | 6.2146 | 0.0296 | 2.4452 | 0.0211 | 2.4662 | 0.6542 | 0.0198 | 0.6739 | | 3,020.9921 | 3,020.9921 | 0.1428 | | 3,024.5612 |
| **Total** | **3.5463** | **4.0952** | **6.2931** | **0.0300** | **2.4452** | **0.0268** | **2.4720** | **0.6542** | **0.0255** | **0.6797** | | **3,110.7950** | **3,110.7950** | **0.1446** | **1.6500e-003** | **3,114.8998** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Energy | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| Mobile | 0.4650 | 4.0202 | 6.2146 | 0.0296 | 2.4452 | 0.0211 | 2.4662 | 0.6542 | 0.0198 | 0.6739 | | 3,020.9921 | 3,020.9921 | 0.1428 | | 3,024.5612 |
| **Total** | **3.5463** | **4.0952** | **6.2931** | **0.0300** | **2.4452** | **0.0268** | **2.4720** | **0.6542** | **0.0255** | **0.6797** | | **3,110.7950** | **3,110.7950** | **0.1446** | **1.6500e-003** | **3,114.8998** |

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

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 1/1/2021 | 1/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 1/8/2021 | 1/19/2021 | 5 | 8 | |
| 3 | Building Construction | Building Construction | 1/20/2021 | 12/7/2021 | 5 | 230 | |
| 4 | Paving | Paving | 12/8/2021 | 12/31/2021 | 5 | 18 | |
| 5 | Architectural Coating | Architectural Coating | 1/1/2022 | 1/26/2022 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4**

**Acres of Paving: 0.36**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,796; Non-Residential Outdoor: 68,599; Striped Parking Area: 932 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |

## Trips and VMT

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 1,279.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 64.00 | 25.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Site Preparation - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 18.3254 | 0.0000 | 18.3254 | 9.9699 | 0.0000 | 9.9699 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **18.3254** | **2.0445** | **20.3698** | **9.9699** | **1.8809** | **11.8508** | | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 3.2 Site Preparation - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.3103 | 55.9765 | 8.5287 | 0.1878 | 4.4745 | 0.1718 | 4.6463 | 1.2266 | 0.1643 | 1.3909 | | 19,933.2666 | 19,933.2666 | 1.2993 | | 19,965.7486 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0838 | 0.0503 | 0.5372 | 1.7200e-003 | 0.2012 | 1.1900e-003 | 0.2024 | 0.0534 | 1.0900e-003 | 0.0545 | | 171.9348 | 171.9348 | 3.9700e-003 | | 172.0342 |
| **Total** | **1.3940** | **56.0268** | **9.0659** | **0.1895** | **4.6757** | **0.1730** | **4.8487** | **1.2799** | **0.1654** | **1.4453** | | **20,105.2014** | **20,105.2014** | **1.3033** | | **20,137.7828** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 7.0095 | 0.0000 | 7.0095 | 3.8135 | 0.0000 | 3.8135 | | | 0.0000 | | | 0.0000 |
| Off-Road | 3.8882 | 40.4971 | 21.1543 | 0.0380 | | 2.0445 | 2.0445 | | 1.8809 | 1.8809 | 0.0000 | 3,685.6569 | 3,685.6569 | 1.1920 | | 3,715.4573 |
| **Total** | **3.8882** | **40.4971** | **21.1543** | **0.0380** | **7.0095** | **2.0445** | **9.0539** | **3.8135** | **1.8809** | **5.6944** | **0.0000** | **3,685.6569** | **3,685.6569** | **1.1920** | | **3,715.4573** |

## 3.2 Site Preparation - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 1.3103 | 55.9765 | 8.5287 | 0.1878 | 4.4745 | 0.1718 | 4.6463 | 1.2266 | 0.1643 | 1.3909 | | 19,933.2666 | 19,933.2666 | 1.2993 | | 19,965.7486 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0838 | 0.0503 | 0.5372 | 1.7200e-003 | 0.2012 | 1.1900e-003 | 0.2024 | 0.0534 | 1.0900e-003 | 0.0545 | | 171.9348 | 171.9348 | 3.9700e-003 | | 172.0342 |
| **Total** | **1.3940** | **56.0268** | **9.0659** | **0.1895** | **4.6757** | **0.1730** | **4.8487** | **1.2799** | **0.1654** | **1.4453** | | **20,105.2014** | **20,105.2014** | **1.3033** | | **20,137.7828** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 6.5523 | 0.0000 | 6.5523 | 3.3675 | 0.0000 | 3.3675 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **6.5523** | **1.1599** | **7.7123** | **3.3675** | **1.0671** | **4.4346** | | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

## 3.3 Grading - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0698 | 0.0419 | 0.4476 | 1.4400e-003 | 0.1677 | 9.9000e-004 | 0.1687 | 0.0445 | 9.1000e-004 | 0.0454 | | 143.2790 | 143.2790 | 3.3100e-003 | | 143.3618 |
| **Total** | **0.0698** | **0.0419** | **0.4476** | **1.4400e-003** | **0.1677** | **9.9000e-004** | **0.1687** | **0.0445** | **9.1000e-004** | **0.0454** | | **143.2790** | **143.2790** | **3.3100e-003** | | **143.3618** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 2.5063 | 0.0000 | 2.5063 | 1.2881 | 0.0000 | 1.2881 | | | 0.0000 | | | 0.0000 |
| Off-Road | 2.2903 | 24.7367 | 15.8575 | 0.0296 | | 1.1599 | 1.1599 | | 1.0671 | 1.0671 | 0.0000 | 2,871.9285 | 2,871.9285 | 0.9288 | | 2,895.1495 |
| **Total** | **2.2903** | **24.7367** | **15.8575** | **0.0296** | **2.5063** | **1.1599** | **3.6662** | **1.2881** | **1.0671** | **2.3552** | **0.0000** | **2,871.9285** | **2,871.9285** | **0.9288** | | **2,895.1495** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0698 | 0.0419 | 0.4476 | 1.4400e-003 | 0.1677 | 9.9000e-004 | 0.1687 | 0.0445 | 9.1000e-004 | 0.0454 | | 143.2790 | 143.2790 | 3.3100e-003 | | 143.3618 |
| **Total** | **0.0698** | **0.0419** | **0.4476** | **1.4400e-003** | **0.1677** | **9.9000e-004** | **0.1687** | **0.0445** | **9.1000e-004** | **0.0454** | | **143.2790** | **143.2790** | **3.3100e-003** | | **143.3618** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0620 | 2.2936 | 0.4883 | 6.2300e-003 | 0.1601 | 4.5300e-003 | 0.1646 | 0.0461 | 4.3400e-003 | 0.0504 | | 657.4331 | 657.4331 | 0.0545 | | 658.7944 |
| Worker | 0.2978 | 0.1788 | 1.9100 | 6.1300e-003 | 0.7154 | 4.2200e-003 | 0.7196 | 0.1897 | 3.8800e-003 | 0.1936 | | 611.3239 | 611.3239 | 0.0141 | | 611.6770 |
| **Total** | **0.3598** | **2.4723** | **2.3982** | **0.0124** | **0.8755** | **8.7500e-003** | **0.8842** | **0.2358** | **8.2200e-003** | **0.2440** | | **1,268.7569** | **1,268.7569** | **0.0686** | | **1,270.4714** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.9009 | 17.4321 | 16.5752 | 0.0269 | | 0.9586 | 0.9586 | | 0.9013 | 0.9013 | 0.0000 | 2,553.3639 | 2,553.3639 | 0.6160 | | 2,568.7643 |
| **Total** | **1.9009** | **17.4321** | **16.5752** | **0.0269** | | **0.9586** | **0.9586** | | **0.9013** | **0.9013** | **0.0000** | **2,553.3639** | **2,553.3639** | **0.6160** | | **2,568.7643** |

## 3.4 Building Construction - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0620 | 2.2936 | 0.4883 | 6.2300e-003 | 0.1601 | 4.5300e-003 | 0.1646 | 0.0461 | 4.3400e-003 | 0.0504 | | 657.4331 | 657.4331 | 0.0545 | | 658.7944 |
| Worker | 0.2978 | 0.1788 | 1.9100 | 6.1300e-003 | 0.7154 | 4.2200e-003 | 0.7196 | 0.1897 | 3.8800e-003 | 0.1936 | | 611.3239 | 611.3239 | 0.0141 | | 611.6770 |
| **Total** | **0.3598** | **2.4723** | **2.3982** | **0.0124** | **0.8755** | **8.7500e-003** | **0.8842** | **0.2358** | **8.2200e-003** | **0.2440** | | **1,268.7569** | **1,268.7569** | **0.0686** | | **1,270.4714** |

## 3.5 Paving - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0940 | 10.8399 | 12.2603 | 0.0189 | | 0.5788 | 0.5788 | | 0.5342 | 0.5342 | | 1,804.5523 | 1,804.5523 | 0.5670 | | 1,818.7270 |
| Paving | 0.0524 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1464** | **10.8399** | **12.2603** | **0.0189** | | **0.5788** | **0.5788** | | **0.5342** | **0.5342** | | **1,804.5523** | **1,804.5523** | **0.5670** | | **1,818.7270** |

## 3.5 Paving - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0931 | 0.0559 | 0.5969 | 1.9200e-003 | 0.2236 | 1.3200e-003 | 0.2249 | 0.0593 | 1.2100e-003 | 0.0605 | | 191.0387 | 191.0387 | 4.4100e-003 | | 191.1491 |
| **Total** | **0.0931** | **0.0559** | **0.5969** | **1.9200e-003** | **0.2236** | **1.3200e-003** | **0.2249** | **0.0593** | **1.2100e-003** | **0.0605** | | **191.0387** | **191.0387** | **4.4100e-003** | | **191.1491** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Off-Road | 1.0940 | 10.8399 | 12.2603 | 0.0189 | | 0.5788 | 0.5788 | | 0.5342 | 0.5342 | 0.0000 | 1,804.5523 | 1,804.5523 | 0.5670 | | 1,818.7270 |
| Paving | 0.0524 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| **Total** | **1.1464** | **10.8399** | **12.2603** | **0.0189** | | **0.5788** | **0.5788** | | **0.5342** | **0.5342** | **0.0000** | **1,804.5523** | **1,804.5523** | **0.5670** | | **1,818.7270** |

## 3.5 Paving - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0931 | 0.0559 | 0.5969 | 1.9200e-003 | 0.2236 | 1.3200e-003 | 0.2249 | 0.0593 | 1.2100e-003 | 0.0605 | | 191.0387 | 191.0387 | 4.4100e-003 | | 191.1491 |
| **Total** | **0.0931** | **0.0559** | **0.5969** | **1.9200e-003** | **0.2236** | **1.3200e-003** | **0.2249** | **0.0593** | **1.2100e-003** | **0.0605** | | **191.0387** | **191.0387** | **4.4100e-003** | | **191.1491** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 70.8967 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **71.1012** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0567 | 0.0327 | 0.3573 | 1.2000e-003 | 0.1453 | 8.3000e-004 | 0.1461 | 0.0385 | 7.7000e-004 | 0.0393 | | 119.6441 | 119.6441 | 2.5800e-003 | | 119.7086 |
| **Total** | **0.0567** | **0.0327** | **0.3573** | **1.2000e-003** | **0.1453** | **8.3000e-004** | **0.1461** | **0.0385** | **7.7000e-004** | **0.0393** | | **119.6441** | **119.6441** | **2.5800e-003** | | **119.7086** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Archit. Coating | 70.8967 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Off-Road | 0.2045 | 1.4085 | 1.8136 | 2.9700e-003 | | 0.0817 | 0.0817 | | 0.0817 | 0.0817 | 0.0000 | 281.4481 | 281.4481 | 0.0183 | | 281.9062 |
| **Total** | **71.1012** | **1.4085** | **1.8136** | **2.9700e-003** | | **0.0817** | **0.0817** | | **0.0817** | **0.0817** | **0.0000** | **281.4481** | **281.4481** | **0.0183** | | **281.9062** |

### 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | | 0.0000 |
| Worker | 0.0567 | 0.0327 | 0.3573 | 1.2000e-003 | 0.1453 | 8.3000e-004 | 0.1461 | 0.0385 | 7.7000e-004 | 0.0393 | | 119.6441 | 119.6441 | 2.5800e-003 | | 119.7086 |
| **Total** | **0.0567** | **0.0327** | **0.3573** | **1.2000e-003** | **0.1453** | **8.3000e-004** | **0.1461** | **0.0385** | **7.7000e-004** | **0.0393** | | **119.6441** | **119.6441** | **2.5800e-003** | | **119.7086** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.4650 | 4.0202 | 6.2146 | 0.0296 | 2.4452 | 0.0211 | 2.4662 | 0.6542 | 0.0198 | 0.6739 | | 3,020.9921 | 3,020.9921 | 0.1428 | | 3,024.5612 |
| Unmitigated | 0.4650 | 4.0202 | 6.2146 | 0.0296 | 2.4452 | 0.0211 | 2.4662 | 0.6542 | 0.0198 | 0.6739 | | 3,020.9921 | 3,020.9921 | 0.1428 | | 3,024.5612 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |
| Total | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |
| Unrefrigerated Warehouse-No Rail | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| NaturalGas Unmitigated | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |

## 5.2 Energy by Land Use - NaturalGas

**Unmitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 763.041 | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| **Total** | | **8.2300e-003** | **0.0748** | **0.0628** | **4.5000e-004** | | **5.6900e-003** | **5.6900e-003** | | **5.6900e-003** | **5.6900e-003** | | **89.7695** | **89.7695** | **1.7200e-003** | **1.6500e-003** | **90.3030** |

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | lb/day | | | | | | | | | | lb/day | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 0.763041 | 8.2300e-003 | 0.0748 | 0.0628 | 4.5000e-004 | | 5.6900e-003 | 5.6900e-003 | | 5.6900e-003 | 5.6900e-003 | | 89.7695 | 89.7695 | 1.7200e-003 | 1.6500e-003 | 90.3030 |
| **Total** | | **8.2300e-003** | **0.0748** | **0.0628** | **4.5000e-004** | | **5.6900e-003** | **5.6900e-003** | | **5.6900e-003** | **5.6900e-003** | | **89.7695** | **89.7695** | **1.7200e-003** | **1.6500e-003** | **90.3030** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| Unmitigated | 3.0731 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.3496 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 2.7220 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.4500e-003 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| **Total** | **3.0731** | **1.4000e-004** | **0.0156** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | | **0.0334** | **0.0334** | **9.0000e-005** | | **0.0356** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.3496 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Consumer Products | 2.7220 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | | 0.0000 | | | 0.0000 |
| Landscaping | 1.4500e-003 | 1.4000e-004 | 0.0156 | 0.0000 | | 6.0000e-005 | 6.0000e-005 | | 6.0000e-005 | 6.0000e-005 | | 0.0334 | 0.0334 | 9.0000e-005 | | 0.0356 |
| **Total** | **3.0731** | **1.4000e-004** | **0.0156** | **0.0000** | | **6.0000e-005** | **6.0000e-005** | | **6.0000e-005** | **6.0000e-005** | | **0.0334** | **0.0334** | **9.0000e-005** | | **0.0356** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

**Fire Pumps and Emergency Generators**

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

**Boilers**

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

**User Defined Equipment**

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

## 11.0 Vegetation

# Appendix B

Annual Emission Calculations Output
(CalEEMod)

# Temecula Valley Self-Storage AQ & GHG Study

**Riverside-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 137.20 | 1000sqft | 4.60 | 137,197.00 | 0 |
| Other Asphalt Surfaces | 15.53 | 1000sqft | 0.36 | 15,530.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.4 | **Precipitation Freq (Days)** | 28 |
| **Climate Zone** | 10 | | | **Operational Year** | 2022 |
| **Utility Company** | Southern California Edison | | | | |
| **CO2 Intensity (lb/MWhr)** | 702.44 | **CH4 Intensity (lb/MWhr)** | 0.029 | **N2O Intensity (lb/MWhr)** | 0.006 |

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

Project Characteristics -

Land Use - The project proposes to construct and operate a self-storage facility with approximately 137,197 square feet of building area on approximately 4.6 acre lot.

Construction Phase - The project site is currently vacant and requires no demolition.

Grading - The site requires grading and import of approximately 10,230 cubic yards of fill material during grading phase.

Vehicle Trips - Trip generation rates are based on the ITE Trip Generation Manual 10th edition.

Construction Off-road Equipment Mitigation - Project will be required to comply with SCAQMD Rule 403 regarding fugitive dust control.

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblConstDustMitigation | WaterUnpavedRoadMoistureContent | 0 | 12 |
| tblConstDustMitigation | WaterUnpavedRoadVehicleSpeed | 0 | 15 |
| tblConstructionPhase | PhaseEndDate | 2/23/2022 | 1/26/2022 |
| tblConstructionPhase | PhaseEndDate | 1/4/2022 | 12/7/2021 |
| tblConstructionPhase | PhaseEndDate | 2/16/2021 | 1/19/2021 |
| tblConstructionPhase | PhaseEndDate | 1/28/2022 | 12/31/2021 |
| tblConstructionPhase | PhaseEndDate | 2/4/2021 | 1/7/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2022 | 1/1/2022 |
| tblConstructionPhase | PhaseStartDate | 2/17/2021 | 1/20/2021 |
| tblConstructionPhase | PhaseStartDate | 2/5/2021 | 1/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/5/2022 | 12/8/2021 |
| tblConstructionPhase | PhaseStartDate | 1/29/2021 | 1/1/2021 |
| tblGrading | MaterialImported | 0.00 | 10,230.00 |
| tblLandUse | LotAcreage | 3.15 | 4.60 |
| tblVehicleTrips | ST_TR | 1.68 | 1.95 |
| tblVehicleTrips | SU_TR | 1.68 | 1.89 |
| tblVehicleTrips | WD_TR | 1.68 | 1.51 |

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2021 | 0.2906 | 2.7347 | 2.4446 | 5.4400e-003 | 0.1852 | 0.1266 | 0.3119 | 0.0690 | 0.1188 | 0.1878 | 0.0000 | 483.8751 | 483.8751 | 0.0847 | 0.0000 | 485.9927 |
| 2022 | 0.6404 | 0.0130 | 0.0197 | 4.0000e-005 | 1.2900e-003 | 7.4000e-004 | 2.0300e-003 | 3.4000e-004 | 7.4000e-004 | 1.0800e-003 | 0.0000 | 3.2999 | 3.2999 | 1.7000e-004 | 0.0000 | 3.3042 |
| **Maximum** | **0.6404** | **2.7347** | **2.4446** | **5.4400e-003** | **0.1852** | **0.1266** | **0.3119** | **0.0690** | **0.1188** | **0.1878** | **0.0000** | **483.8751** | **483.8751** | **0.0847** | **0.0000** | **485.9927** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2021 | 0.2906 | 2.7347 | 2.4446 | 5.4400e-003 | 0.1408 | 0.1266 | 0.2674 | 0.0453 | 0.1188 | 0.1641 | 0.0000 | 483.8747 | 483.8747 | 0.0847 | 0.0000 | 485.9924 |
| 2022 | 0.6404 | 0.0130 | 0.0197 | 4.0000e-005 | 1.2900e-003 | 7.4000e-004 | 2.0300e-003 | 3.4000e-004 | 7.4000e-004 | 1.0800e-003 | 0.0000 | 3.2999 | 3.2999 | 1.7000e-004 | 0.0000 | 3.3042 |
| **Maximum** | **0.6404** | **2.7347** | **2.4446** | **5.4400e-003** | **0.1408** | **0.1266** | **0.2674** | **0.0453** | **0.1188** | **0.1641** | **0.0000** | **483.8747** | **483.8747** | **0.0847** | **0.0000** | **485.9924** |

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N20 | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Percent Reduction** | **0.00** | **0.00** | **0.00** | **0.00** | **23.84** | **0.00** | **14.17** | **34.21** | **0.00** | **12.56** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 1-1-2021 | 3-31-2021 | 0.9329 | 0.9329 |
| 2 | 4-1-2021 | 6-30-2021 | 0.7209 | 0.7209 |
| 3 | 7-1-2021 | 9-30-2021 | 0.7288 | 0.7288 |
| 4 | 10-1-2021 | 12-31-2021 | 0.6423 | 0.6423 |
| 5 | 1-1-2022 | 3-31-2022 | 0.6741 | 0.6741 |
| | | Highest | 0.9329 | 0.9329 |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.5608 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |
| Energy | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 118.0272 | 118.0272 | 4.5400e-003 | 1.1500e-003 | 118.4846 |
| Mobile | 0.0708 | 0.6210 | 0.9764 | 4.5900e-003 | 0.3653 | 3.1800e-003 | 0.3685 | 0.0979 | 2.9800e-003 | 0.1008 | 0.0000 | 425.0890 | 425.0890 | 0.0192 | 0.0000 | 425.5687 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 26.1797 | 0.0000 | 26.1797 | 1.5472 | 0.0000 | 64.8592 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10.0657 | 131.6301 | 141.6958 | 1.0393 | 0.0255 | 175.2872 |
| **Total** | **0.6331** | **0.6346** | **0.9898** | **4.6700e-003** | **0.3653** | **4.2300e-003** | **0.3695** | **0.0979** | **4.0300e-003** | **0.1019** | **36.2454** | **674.7501** | **710.9955** | **2.6102** | **0.0267** | **784.2038** |

## 2.2 Overall Operational

**Mitigated Operational**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.5608 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |
| Energy | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 118.0272 | 118.0272 | 4.5400e-003 | 1.1500e-003 | 118.4846 |
| Mobile | 0.0708 | 0.6210 | 0.9764 | 4.5900e-003 | 0.3653 | 3.1800e-003 | 0.3685 | 0.0979 | 2.9800e-003 | 0.1008 | 0.0000 | 425.0890 | 425.0890 | 0.0192 | 0.0000 | 425.5687 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 26.1797 | 0.0000 | 26.1797 | 1.5472 | 0.0000 | 64.8592 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 10.0657 | 131.6301 | 141.6958 | 1.0393 | 0.0255 | 175.2872 |
| **Total** | **0.6331** | **0.6346** | **0.9898** | **4.6700e-003** | **0.3653** | **4.2300e-003** | **0.3695** | **0.0979** | **4.0300e-003** | **0.1019** | **36.2454** | **674.7501** | **710.9955** | **2.6102** | **0.0267** | **784.2038** |

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

## 3.0 Construction Detail

**Construction Phase**

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 1/1/2021 | 1/7/2021 | 5 | 5 | |
| 2 | Grading | Grading | 1/8/2021 | 1/19/2021 | 5 | 8 | |
| 3 | Building Construction | Building Construction | 1/20/2021 | 12/7/2021 | 5 | 230 | |
| 4 | Paving | Paving | 12/8/2021 | 12/31/2021 | 5 | 18 | |
| 5 | Architectural Coating | Architectural Coating | 1/1/2022 | 1/26/2022 | 5 | 18 | |

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

**Acres of Grading (Grading Phase): 4**

**Acres of Paving: 0.36**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 205,796; Non-Residential Outdoor: 68,599; Striped Parking Area: 932 (Architectural Coating – sqft)**

**OffRoad Equipment**

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Architectural Coating | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Cement and Mortar Mixers | 2 | 6.00 | 9 | 0.56 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Grading | Excavators | 1 | 8.00 | 158 | 0.38 |
| Paving | Pavers | 1 | 8.00 | 130 | 0.42 |
| Paving | Rollers | 2 | 6.00 | 80 | 0.38 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Grading | Tractors/Loaders/Backhoes | 3 | 8.00 | 97 | 0.37 |
| Paving | Tractors/Loaders/Backhoes | 1 | 8.00 | 97 | 0.37 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Paving | Paving Equipment | 2 | 6.00 | 132 | 0.36 |
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |

**Trips and VMT**

| Phase Name | Offroad Equipment Count | Worker Trip Number | Vendor Trip Number | Hauling Trip Number | Worker Trip Length | Vendor Trip Length | Hauling Trip Length | Worker Vehicle Class | Vendor Vehicle Class | Hauling Vehicle Class |
|---|---|---|---|---|---|---|---|---|---|---|
| Site Preparation | 7 | 18.00 | 0.00 | 1,279.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 64.00 | 25.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 8 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coating | 1 | 13.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

## 3.2 Site Preparation - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0458 | 0.0000 | 0.0458 | 0.0249 | 0.0000 | 0.0249 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.7200e-003 | 0.1012 | 0.0529 | 1.0000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 8.3589 | 8.3589 | 2.7000e-003 | 0.0000 | 8.4265 |
| **Total** | **9.7200e-003** | **0.1012** | **0.0529** | **1.0000e-004** | **0.0458** | **5.1100e-003** | **0.0509** | **0.0249** | **4.7000e-003** | **0.0296** | **0.0000** | **8.3589** | **8.3589** | **2.7000e-003** | **0.0000** | **8.4265** |

## 3.2 Site Preparation - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 3.1800e-003 | 0.1421 | 0.0196 | 4.8000e-004 | 0.0110 | 4.3000e-004 | 0.0115 | 3.0300e-003 | 4.1000e-004 | 3.4300e-003 | 0.0000 | 45.8837 | 45.8837 | 2.8000e-003 | 0.0000 | 45.9537 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.9000e-004 | 1.3000e-004 | 1.4200e-003 | 0.0000 | 4.9000e-004 | 0.0000 | 5.0000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.4000 | 0.4000 | 1.0000e-005 | 0.0000 | 0.4002 |
| **Total** | **3.3700e-003** | **0.1422** | **0.0210** | **4.8000e-004** | **0.0115** | **4.3000e-004** | **0.0120** | **3.1600e-003** | **4.1000e-004** | **3.5600e-003** | **0.0000** | **46.2836** | **46.2836** | **2.8100e-003** | **0.0000** | **46.3539** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0175 | 0.0000 | 0.0175 | 9.5300e-003 | 0.0000 | 9.5300e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.7200e-003 | 0.1012 | 0.0529 | 1.0000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 8.3589 | 8.3589 | 2.7000e-003 | 0.0000 | 8.4265 |
| **Total** | **9.7200e-003** | **0.1012** | **0.0529** | **1.0000e-004** | **0.0175** | **5.1100e-003** | **0.0226** | **9.5300e-003** | **4.7000e-003** | **0.0142** | **0.0000** | **8.3589** | **8.3589** | **2.7000e-003** | **0.0000** | **8.4265** |

## 3.2 Site Preparation - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 3.1800e-003 | 0.1421 | 0.0196 | 4.8000e-004 | 0.0110 | 4.3000e-004 | 0.0115 | 3.0300e-003 | 4.1000e-004 | 3.4300e-003 | 0.0000 | 45.8837 | 45.8837 | 2.8000e-003 | 0.0000 | 45.9537 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 1.9000e-004 | 1.3000e-004 | 1.4200e-003 | 0.0000 | 4.9000e-004 | 0.0000 | 5.0000e-004 | 1.3000e-004 | 0.0000 | 1.3000e-004 | 0.0000 | 0.4000 | 0.4000 | 1.0000e-005 | 0.0000 | 0.4002 |
| **Total** | **3.3700e-003** | **0.1422** | **0.0210** | **4.8000e-004** | **0.0115** | **4.3000e-004** | **0.0120** | **3.1600e-003** | **4.1000e-004** | **3.5600e-003** | **0.0000** | **46.2836** | **46.2836** | **2.8100e-003** | **0.0000** | **46.3539** |

## 3.3 Grading - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0262 | 0.0000 | 0.0262 | 0.0135 | 0.0000 | 0.0135 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.1600e-003 | 0.0990 | 0.0634 | 1.2000e-004 | | 4.6400e-003 | 4.6400e-003 | | 4.2700e-003 | 4.2700e-003 | 0.0000 | 10.4215 | 10.4215 | 3.3700e-003 | 0.0000 | 10.5057 |
| **Total** | **9.1600e-003** | **0.0990** | **0.0634** | **1.2000e-004** | **0.0262** | **4.6400e-003** | **0.0309** | **0.0135** | **4.2700e-003** | **0.0177** | **0.0000** | **10.4215** | **10.4215** | **3.3700e-003** | **0.0000** | **10.5057** |

## 3.3 Grading - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.6000e-004 | 1.7000e-004 | 1.8900e-003 | 1.0000e-005 | 6.6000e-004 | 0.0000 | 6.6000e-004 | 1.8000e-004 | 0.0000 | 1.8000e-004 | 0.0000 | 0.5333 | 0.5333 | 1.0000e-005 | 0.0000 | 0.5336 |
| **Total** | **2.6000e-004** | **1.7000e-004** | **1.8900e-003** | **1.0000e-005** | **6.6000e-004** | **0.0000** | **6.6000e-004** | **1.8000e-004** | **0.0000** | **1.8000e-004** | **0.0000** | **0.5333** | **0.5333** | **1.0000e-005** | **0.0000** | **0.5336** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.0100 | 0.0000 | 0.0100 | 5.1500e-003 | 0.0000 | 5.1500e-003 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 9.1600e-003 | 0.0990 | 0.0634 | 1.2000e-004 | | 4.6400e-003 | 4.6400e-003 | | 4.2700e-003 | 4.2700e-003 | 0.0000 | 10.4215 | 10.4215 | 3.3700e-003 | 0.0000 | 10.5057 |
| **Total** | **9.1600e-003** | **0.0990** | **0.0634** | **1.2000e-004** | **0.0100** | **4.6400e-003** | **0.0147** | **5.1500e-003** | **4.2700e-003** | **9.4200e-003** | **0.0000** | **10.4215** | **10.4215** | **3.3700e-003** | **0.0000** | **10.5057** |

## 3.3 Grading - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 2.6000e-004 | 1.7000e-004 | 1.8900e-003 | 1.0000e-005 | 6.6000e-004 | 0.0000 | 6.6000e-004 | 1.8000e-004 | 0.0000 | 1.8000e-004 | 0.0000 | 0.5333 | 0.5333 | 1.0000e-005 | 0.0000 | 0.5336 |
| **Total** | **2.6000e-004** | **1.7000e-004** | **1.8900e-003** | **1.0000e-005** | **6.6000e-004** | **0.0000** | **6.6000e-004** | **1.8000e-004** | **0.0000** | **1.8000e-004** | **0.0000** | **0.5333** | **0.5333** | **1.0000e-005** | **0.0000** | **0.5336** |

## 3.4 Building Construction - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2186 | 2.0047 | 1.9062 | 3.1000e-003 | | 0.1102 | 0.1102 | | 0.1037 | 0.1037 | 0.0000 | 266.3829 | 266.3829 | 0.0643 | 0.0000 | 267.9895 |
| **Total** | **0.2186** | **2.0047** | **1.9062** | **3.1000e-003** | | **0.1102** | **0.1102** | | **0.1037** | **0.1037** | **0.0000** | **266.3829** | **266.3829** | **0.0643** | **0.0000** | **267.9895** |

## 3.4 Building Construction - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 6.8600e-003 | 0.2681 | 0.0516 | 7.3000e-004 | 0.0182 | 5.1000e-004 | 0.0187 | 5.2400e-003 | 4.9000e-004 | 5.7300e-003 | 0.0000 | 70.1423 | 70.1423 | 5.3500e-003 | 0.0000 | 70.2761 |
| Worker | 0.0316 | 0.0213 | 0.2317 | 7.2000e-004 | 0.0809 | 4.8000e-004 | 0.0814 | 0.0215 | 4.5000e-004 | 0.0219 | 0.0000 | 65.4191 | 65.4191 | 1.5200e-003 | 0.0000 | 65.4572 |
| **Total** | **0.0384** | **0.2893** | **0.2833** | **1.4500e-003** | **0.0991** | **9.9000e-004** | **0.1001** | **0.0267** | **9.4000e-004** | **0.0277** | **0.0000** | **135.5614** | **135.5614** | **6.8700e-003** | **0.0000** | **135.7333** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.2186 | 2.0047 | 1.9062 | 3.1000e-003 | | 0.1102 | 0.1102 | | 0.1037 | 0.1037 | 0.0000 | 266.3826 | 266.3826 | 0.0643 | 0.0000 | 267.9892 |
| **Total** | **0.2186** | **2.0047** | **1.9062** | **3.1000e-003** | | **0.1102** | **0.1102** | | **0.1037** | **0.1037** | **0.0000** | **266.3826** | **266.3826** | **0.0643** | **0.0000** | **267.9892** |

## 3.4 Building Construction - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 6.8600e-003 | 0.2681 | 0.0516 | 7.3000e-004 | 0.0182 | 5.1000e-004 | 0.0187 | 5.2400e-003 | 4.9000e-004 | 5.7300e-003 | 0.0000 | 70.1423 | 70.1423 | 5.3500e-003 | 0.0000 | 70.2761 |
| Worker | 0.0316 | 0.0213 | 0.2317 | 7.2000e-004 | 0.0809 | 4.8000e-004 | 0.0814 | 0.0215 | 4.5000e-004 | 0.0219 | 0.0000 | 65.4191 | 65.4191 | 1.5200e-003 | 0.0000 | 65.4572 |
| **Total** | **0.0384** | **0.2893** | **0.2833** | **1.4500e-003** | **0.0991** | **9.9000e-004** | **0.1001** | **0.0267** | **9.4000e-004** | **0.0277** | **0.0000** | **135.5614** | **135.5614** | **6.8700e-003** | **0.0000** | **135.7333** |

## 3.5 Paving - 2021

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 9.8500e-003 | 0.0976 | 0.1103 | 1.7000e-004 | | 5.2100e-003 | 5.2100e-003 | | 4.8100e-003 | 4.8100e-003 | 0.0000 | 14.7336 | 14.7336 | 4.6300e-003 | 0.0000 | 14.8493 |
| Paving | 4.7000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0103** | **0.0976** | **0.1103** | **1.7000e-004** | | **5.2100e-003** | **5.2100e-003** | | **4.8100e-003** | **4.8100e-003** | **0.0000** | **14.7336** | **14.7336** | **4.6300e-003** | **0.0000** | **14.8493** |

## 3.5 Paving - 2021

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 7.7000e-004 | 5.2000e-004 | 5.6700e-003 | 2.0000e-005 | 1.9800e-003 | 1.0000e-005 | 1.9900e-003 | 5.3000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.5999 | 1.5999 | 4.0000e-005 | 0.0000 | 1.6009 |
| **Total** | **7.7000e-004** | **5.2000e-004** | **5.6700e-003** | **2.0000e-005** | **1.9800e-003** | **1.0000e-005** | **1.9900e-003** | **5.3000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.5999** | **1.5999** | **4.0000e-005** | **0.0000** | **1.6009** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 9.8500e-003 | 0.0976 | 0.1103 | 1.7000e-004 | | 5.2100e-003 | 5.2100e-003 | | 4.8100e-003 | 4.8100e-003 | 0.0000 | 14.7335 | 14.7335 | 4.6300e-003 | 0.0000 | 14.8493 |
| Paving | 4.7000e-004 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0103** | **0.0976** | **0.1103** | **1.7000e-004** | | **5.2100e-003** | **5.2100e-003** | | **4.8100e-003** | **4.8100e-003** | **0.0000** | **14.7335** | **14.7335** | **4.6300e-003** | **0.0000** | **14.8493** |

## 3.5 Paving - 2021

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 7.7000e-004 | 5.2000e-004 | 5.6700e-003 | 2.0000e-005 | 1.9800e-003 | 1.0000e-005 | 1.9900e-003 | 5.3000e-004 | 1.0000e-005 | 5.4000e-004 | 0.0000 | 1.5999 | 1.5999 | 4.0000e-005 | 0.0000 | 1.6009 |
| **Total** | **7.7000e-004** | **5.2000e-004** | **5.6700e-003** | **2.0000e-005** | **1.9800e-003** | **1.0000e-005** | **1.9900e-003** | **5.3000e-004** | **1.0000e-005** | **5.4000e-004** | **0.0000** | **1.5999** | **1.5999** | **4.0000e-005** | **0.0000** | **1.6009** |

## 3.6 Architectural Coating - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.6381 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.8400e-003 | 0.0127 | 0.0163 | 3.0000e-005 | | 7.4000e-004 | 7.4000e-004 | | 7.4000e-004 | 7.4000e-004 | 0.0000 | 2.2979 | 2.2979 | 1.5000e-004 | 0.0000 | 2.3017 |
| **Total** | **0.6399** | **0.0127** | **0.0163** | **3.0000e-005** | | **7.4000e-004** | **7.4000e-004** | | **7.4000e-004** | **7.4000e-004** | **0.0000** | **2.2979** | **2.2979** | **1.5000e-004** | **0.0000** | **2.3017** |

## 3.6 Architectural Coating - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.7000e-004 | 3.0000e-004 | 3.3900e-003 | 1.0000e-005 | 1.2900e-003 | 1.0000e-005 | 1.2900e-003 | 3.4000e-004 | 1.0000e-005 | 3.5000e-004 | 0.0000 | 1.0020 | 1.0020 | 2.0000e-005 | 0.0000 | 1.0026 |
| **Total** | **4.7000e-004** | **3.0000e-004** | **3.3900e-003** | **1.0000e-005** | **1.2900e-003** | **1.0000e-005** | **1.2900e-003** | **3.4000e-004** | **1.0000e-005** | **3.5000e-004** | **0.0000** | **1.0020** | **1.0020** | **2.0000e-005** | **0.0000** | **1.0026** |

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Archit. Coating | 0.6381 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 1.8400e-003 | 0.0127 | 0.0163 | 3.0000e-005 | | 7.4000e-004 | 7.4000e-004 | | 7.4000e-004 | 7.4000e-004 | 0.0000 | 2.2979 | 2.2979 | 1.5000e-004 | 0.0000 | 2.3017 |
| **Total** | **0.6399** | **0.0127** | **0.0163** | **3.0000e-005** | | **7.4000e-004** | **7.4000e-004** | | **7.4000e-004** | **7.4000e-004** | **0.0000** | **2.2979** | **2.2979** | **1.5000e-004** | **0.0000** | **2.3017** |

### 3.6 Architectural Coating - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 4.7000e-004 | 3.0000e-004 | 3.3900e-003 | 1.0000e-005 | 1.2900e-003 | 1.0000e-005 | 1.2900e-003 | 3.4000e-004 | 1.0000e-005 | 3.5000e-004 | 0.0000 | 1.0020 | 1.0020 | 2.0000e-005 | 0.0000 | 1.0026 |
| **Total** | **4.7000e-004** | **3.0000e-004** | **3.3900e-003** | **1.0000e-005** | **1.2900e-003** | **1.0000e-005** | **1.2900e-003** | **3.4000e-004** | **1.0000e-005** | **3.5000e-004** | **0.0000** | **1.0020** | **1.0020** | **2.0000e-005** | **0.0000** | **1.0026** |

## 4.0 Operational Detail - Mobile

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.0708 | 0.6210 | 0.9764 | 4.5900e-003 | 0.3653 | 3.1800e-003 | 0.3685 | 0.0979 | 2.9800e-003 | 0.1008 | 0.0000 | 425.0890 | 425.0890 | 0.0192 | 0.0000 | 425.5687 |
| Unmitigated | 0.0708 | 0.6210 | 0.9764 | 4.5900e-003 | 0.3653 | 3.1800e-003 | 0.3685 | 0.0979 | 2.9800e-003 | 0.1008 | 0.0000 | 425.0890 | 425.0890 | 0.0192 | 0.0000 | 425.5687 |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Other Asphalt Surfaces | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |
| Total | 207.17 | 267.53 | 259.30 | 956,740 | 956,740 |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | | Trip Purpose % | | |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW | Primary | Diverted | Pass-by |
| Other Asphalt Surfaces | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 16.60 | 8.40 | 6.90 | 59.00 | 0.00 | 41.00 | 92 | 5 | 3 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |
| Unrefrigerated Warehouse-No Rail | 0.545527 | 0.036856 | 0.186032 | 0.115338 | 0.015222 | 0.004970 | 0.017525 | 0.069528 | 0.001397 | 0.001160 | 0.004547 | 0.000932 | 0.000965 |

## 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 103.1648 | 103.1648 | 4.2600e-003 | 8.8000e-004 | 103.5339 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 103.1648 | 103.1648 | 4.2600e-003 | 8.8000e-004 | 103.5339 |
| NaturalGas Mitigated | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.8624 | 14.8624 | 2.8000e-004 | 2.7000e-004 | 14.9507 |
| NaturalGas Unmitigated | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.8624 | 14.8624 | 2.8000e-004 | 2.7000e-004 | 14.9507 |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 278510 | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.8624 | 14.8624 | 2.8000e-004 | 2.7000e-004 | 14.9507 |
| **Total** | | **1.5000e-003** | **0.0137** | **0.0115** | **8.0000e-005** | | **1.0400e-003** | **1.0400e-003** | | **1.0400e-003** | **1.0400e-003** | **0.0000** | **14.8624** | **14.8624** | **2.8000e-004** | **2.7000e-004** | **14.9507** |

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU/yr | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 278510 | 1.5000e-003 | 0.0137 | 0.0115 | 8.0000e-005 | | 1.0400e-003 | 1.0400e-003 | | 1.0400e-003 | 1.0400e-003 | 0.0000 | 14.8624 | 14.8624 | 2.8000e-004 | 2.7000e-004 | 14.9507 |
| **Total** | | **1.5000e-003** | **0.0137** | **0.0115** | **8.0000e-005** | | **1.0400e-003** | **1.0400e-003** | | **1.0400e-003** | **1.0400e-003** | **0.0000** | **14.8624** | **14.8624** | **2.8000e-004** | **2.7000e-004** | **14.9507** |

## 5.3 Energy by Land Use - Electricity

**Unmitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 323785 | 103.1648 | 4.2600e-003 | 8.8000e-004 | 103.5339 |
| **Total** | | **103.1648** | **4.2600e-003** | **8.8000e-004** | **103.5339** |

**Mitigated**

| | Electricity Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | kWh/yr | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 323785 | 103.1648 | 4.2600e-003 | 8.8000e-004 | 103.5339 |
| **Total** | | **103.1648** | **4.2600e-003** | **8.8000e-004** | **103.5339** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.5608 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |
| Unmitigated | 0.5608 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |

## 6.2 Area by SubCategory

**Unmitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0638 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.4968 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.8000e-004 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |
| **Total** | **0.5608** | **2.0000e-005** | **1.9500e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **3.7900e-003** | **3.7900e-003** | **1.0000e-005** | **0.0000** | **4.0400e-003** |

### 6.2 Area by SubCategory

**Mitigated**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.0638 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 0.4968 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 1.8000e-004 | 2.0000e-005 | 1.9500e-003 | 0.0000 | | 1.0000e-005 | 1.0000e-005 | | 1.0000e-005 | 1.0000e-005 | 0.0000 | 3.7900e-003 | 3.7900e-003 | 1.0000e-005 | 0.0000 | 4.0400e-003 |
| **Total** | **0.5608** | **2.0000e-005** | **1.9500e-003** | **0.0000** | | **1.0000e-005** | **1.0000e-005** | | **1.0000e-005** | **1.0000e-005** | **0.0000** | **3.7900e-003** | **3.7900e-003** | **1.0000e-005** | **0.0000** | **4.0400e-003** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 141.6958 | 1.0393 | 0.0255 | 175.2872 |
| Unmitigated | 141.6958 | 1.0393 | 0.0255 | 175.2872 |

## 7.2 Water by Land Use

**Unmitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 31.7275 / 0 | 141.6958 | 1.0393 | 0.0255 | 175.2872 |
| **Total** | | **141.6958** | **1.0393** | **0.0255** | **175.2872** |

### 7.2 Water by Land Use

**Mitigated**

| | Indoor/Outdoor Use | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | Mgal | MT/yr | | | |
| Other Asphalt Surfaces | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 31.7275 / 0 | 141.6958 | 1.0393 | 0.0255 | 175.2872 |
| **Total** | | **141.6958** | **1.0393** | **0.0255** | **175.2872** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 26.1797 | 1.5472 | 0.0000 | 64.8592 |
| Unmitigated | 26.1797 | 1.5472 | 0.0000 | 64.8592 |

## 8.2 Waste by Land Use

**Unmitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 128.97 | 26.1797 | 1.5472 | 0.0000 | 64.8592 |
| **Total** | | **26.1797** | **1.5472** | **0.0000** | **64.8592** |

**Mitigated**

| | Waste Disposed | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|
| Land Use | tons | MT/yr | | | |
| Other Asphalt Surfaces | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 128.97 | 26.1797 | 1.5472 | 0.0000 | 64.8592 |
| **Total** | | **26.1797** | **1.5472** | **0.0000** | **64.8592** |

## 9.0 Operational Offroad

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

## 10.0 Stationary Equipment

### Fire Pumps and Emergency Generators

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

### Boilers

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

### User Defined Equipment

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

## 11.0 Vegetation