# Sycamore Hills Distribution Center Project

## Draft Environmental Impact Report (DEIR)

## Appendix H – Greenhouse Gas Analysis for the Sycamore Hills Distribution Project

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# Greenhouse Gas Analysis for the Sycamore Hills Distribution Project Riverside, California

*Prepared for*
Ruth Villalobos & Associates, Inc.
3602 Inland Empire Boulevard, Suite C310
Ontario, CA 91764

*Prepared by*
RECON Environmental, Inc.
3111 Camino del Rio North, Suite 600
San Diego, CA 92108
P 619.308.9333

RECON Number 9309
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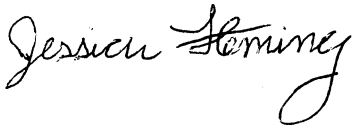

Jessica Fleming, Air Quality Analyst

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# Acronyms and Abbreviations

| | |
|---|---|
| AB | Assembly Bill |
| BAU | business as usual |
| CAFE | Corporate Average Fuel Economy |
| CalEEMod | California Emissions Estimator Model |
| CALGreen | California Green Building Standards Code |
| CalRecycle | California Department of Resources Recycling and Recovery |
| CAP | Climate Action Plan |
| CAPCOA | California Air Pollution Control Officers Association |
| CARB | California Air Resources Board |
| CBC | California Building Code |
| CEC | California Energy Commission |
| CEQ | Council on Environmental Quality |
| CEQA | California Environmental Quality Act |
| $CH_4$ | methane |
| City | City of Riverside |
| $CO_2$ | carbon dioxide |
| EO | Executive Order |
| EPA | Environmental Protection Agency |
| GHG | greenhouse gas |
| GWP | global warming potential |
| IPCC | Intergovernmental Panel on Climate Change |
| MMT $CO_2E$ | million metric tons carbon dioxide equivalent |
| MPF | Marijuana Production Facility |
| mpg | miles per gallon |
| MPO | Metropolitan Planning Organizations |
| MT $CO_2E$ | metric tons of carbon dioxide equivalent |
| MWh | megawatt-hour |
| $N_2O$ | nitrous oxide |
| Project | Sycamore Hills Distribution Center |
| RPS | Renewables Portfolio Standard |
| RRG | Riverside Restorative Growthprint |
| RRG-CAP | Riverside Restorative Growthprint-Climate Action Plan |
| RRG-EPAP | Riverside Restorative Growthprint-Economic Prosperity Action Plan |
| SB | Senate Bill |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| U.S. EPA | U.S. Environmental Protection Agency |
| WRCOG | Western Riverside Council of Governments |

# Executive Summary

The Sycamore Hills Distribution Center project (project) is located north of Alessandro Boulevard and east of Barton Street in the city of Riverside, California (Assessor Parcel Numbers 263-060-022, 263-060-024, 263-060-026). The project proposes subdividing the site into two parcels (Parcels 1 and 2), and three lettered parcels (Parcels A, B, and C). Each parcel is proposed to be developed with a high cube transload short-term warehouse building (Buildings A and B). Building A, a 400,000-square-foot warehouse, would be constructed on Parcel 1. Building B, a 203,100-square-foot warehouse, would be constructed on Parcel 2. Associated improvements include parking, fire lanes, fencing and walls (including retaining walls), landscaping, and water quality treatment areas. Parcels A and Parcel B consist of existing Restricted Property of natural land. Parcel C would include a trailhead peaking lot for access to the Sycamore Canyon Wilderness Park.

The City of Riverside (City) has adopted the Riverside Restorative Growthprint (RRG), which combines two plans: the Economic Prosperity Action Plan (RRG-EPAP) and the Climate Action Plan (RRG-CAP) (City of Riverside 2016). However, the City has not adopted its own greenhouse gas (GHG) emissions thresholds of significance for the California Environmental Quality Act (CEQA). This analysis evaluates the significance of the proposed project in accordance with CEQA and guidance from the South Coast Air Quality Management District (SCAQMD). This report evaluates the significance of the project in terms of (1) its contribution of GHGs to cumulative statewide emissions, and (2) whether the project would conflict with local and/or state regulations, plans, and policies adopted to reduce GHG emissions.

The significance of the project's GHG emissions was assessed based on screening levels recommended by the SCAQMD's Interim CEQA GHG Significance Thresholds (SCAQMD 2008). Consistent with the SCAQMD guidance, the recommended tiered approach for land use development projects in SCAQMD jurisdiction is assessment against the applicable screening levels. As the project is not exempt from CEQA and is not part of an approved local plan, project emissions are assessed against the industrial 10,000 metric tons of carbon dioxide equivalent (MT $CO_2E$) screening level. This screening level is intended to exempt projects that are too small to have significant impacts from further analysis. This threshold is based on the concept of establishing a 90 percent GHG emission capture rate. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified capture rate would not impede achievement of the state GHG emissions reduction targets codified by Assembly Bill 32 (2006) and Senate Bill 32 (2016), and impacts under CEQA would, therefore, be less than cumulatively considerable.

GHG emissions would result from construction and operation of the project. Construction activities emit GHGs primarily through the combustion of fuels in on- and off-road equipment and vehicles. Operational emissions include mobile, energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, and solid waste sources. As shown calculated in this analysis, the project would result in a net

increase of 7,405 MT $CO_2E$ per year. As project emissions would be less than the 10,000 MT $CO_2E$ screening level, GHG emissions impacts would be less than significant. Additionally, the project would be consistent with applicable RRG-CAP measures, and is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05. Therefore, GHG impacts would be less than significant.

# 1.0 Introduction

This report evaluates the greenhouse gas (GHG) emissions associated with the proposed Sycamore Hills Distribution Center project (project). The purpose of this report is to evaluate project-related construction and operational emissions and determine the level of GHG impacts as a result of constructing and operating the project.

## 1.1 Understanding Global Climate Change

To evaluate the incremental effect of the project on statewide GHG emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem. Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat trapped in the earth's atmosphere. Recently observed increased concentrations of GHGs in the atmosphere appear to be related to increases in human activity. Therefore, the current cycle of "global warming" is believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is believed that the increased GHG concentrations around the world are related to human activity and the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

## 1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Each GHG has variable atmospheric lifetime and global warming potential (GWP). The atmospheric lifetime of the gas is the average time a molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. GWP is a measure of the potential for a gas to trap heat and warm the atmosphere. Although GWP is related to its atmospheric lifetime, many other factors including chemical reactivity of the gas also influence GWP. GWP is reported as a unitless factor representing the potential for the gas to affect global climate relative to the potential of carbon dioxide ($CO_2$). Because $CO_2$ is the reference gas for establishing GWP, by definition its GWP is 1. Although methane ($CH_4$) has a shorter atmospheric lifetime than $CO_2$, it has a 100-year GWP of 28; this means that $CH_4$ has 28 times more effect on global warming than $CO_2$ on a molecule-by-molecule basis.

The GWP is officially defined as (U.S. Environmental Protection Agency [U.S. EPA] 2010):

> The cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

GHG emissions estimates are typically represented in terms of equivalent metric tons of $CO_2$ (MT $CO_2E$). $CO_2E$ emissions are the product of the amount of each gas by its GWP. The effects of several GHGs may be discussed in terms of MT $CO_2E$ and can be summed to represent the total potential of these gases to warm the global climate. Table 1 summarizes some of the most common GHGs.

It should be noted that the U.S. EPA and other organizations update the GWP values they use occasionally. This change can be due to updated scientific estimates of the energy absorption or lifetime of the gases or to changing atmospheric concentrations of GHGs that result in a change in the energy absorption of one additional ton of a gas relative to another. The GWPs shown in Table 1 are the most current. However, it should be noted that in the California Emissions Estimator Model (CalEEMod), which is the model used in this analysis to calculate emission, $CH_4$ has a GWP of 25 and nitrous oxide ($N_2O$) has a GWP of 298, consistent with the Scoping Plan.

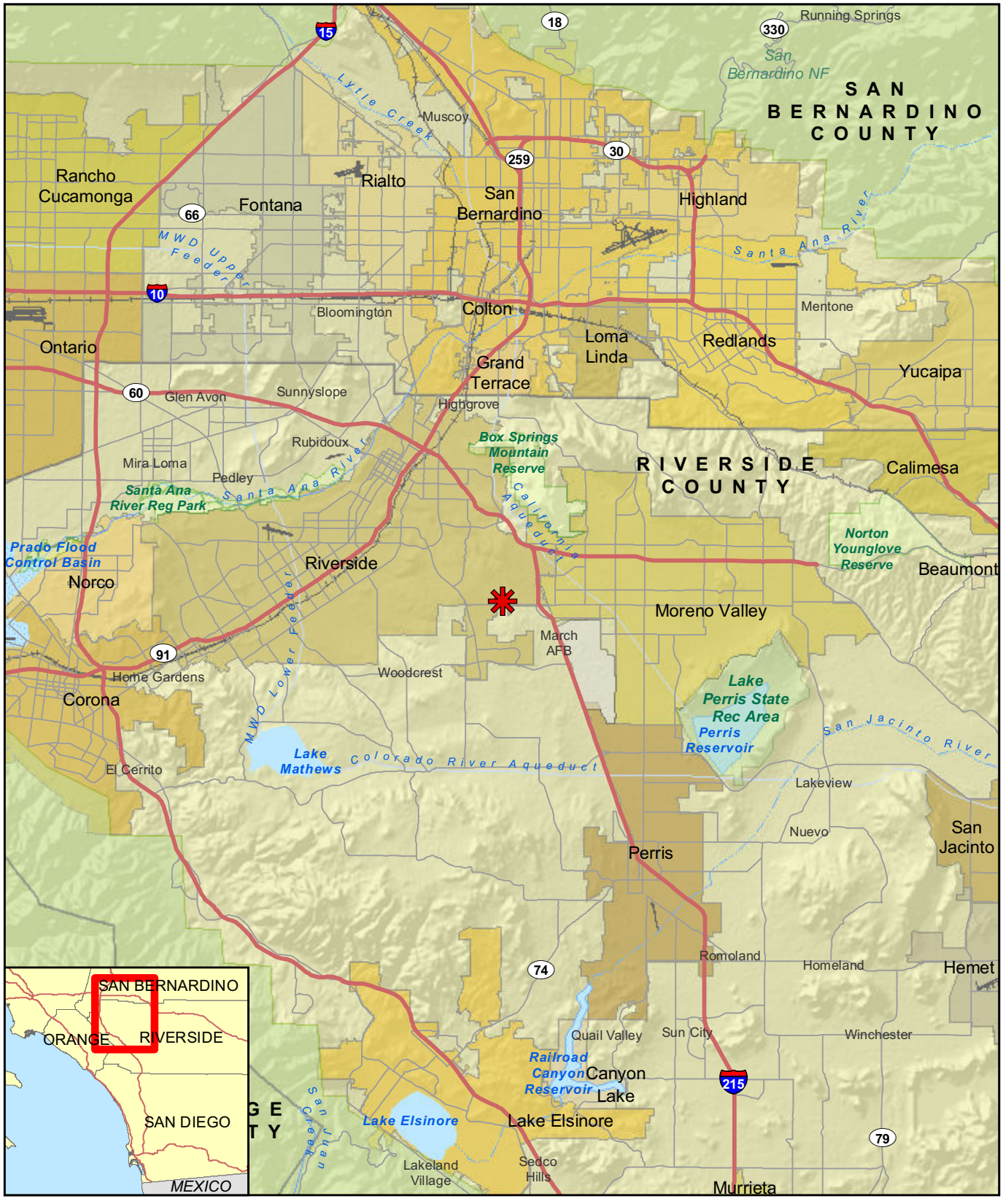
All of the gases in Table 1 are produced by both biogenic (natural) and anthropogenic (human) sources. These are the GHGs of primary concern in this analysis. $CO_2$ would be emitted by the project due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of $CH_4$ and $N_2O$ would be emitted from the same project operations.

| Table 1<br>Global Warming Potentials and Atmospheric Lifetimes<br>(years) | | | |
|---|---|---|---|
| Gas | Atmospheric Lifetime (years) | 100-year GWP | 20-year GWP |
| Carbon dioxide ($CO_2$) | 50–200 | 1 | 1 |
| Methane ($CH_4$) | 12.4 | 25/28* | 84 |
| Nitrous oxide ($N_2O$) | 121 | 298/265* | 264 |
| HFC-23 | 222 | 12,400 | 10,800 |
| HFC-32 | 5.2 | 677 | 2,430 |
| HFC-125 | 28.2 | 3,170 | 6,090 |
| HFC-134a | 13.4 | 1,300 | 3,710 |
| HFC-143a | 47.1 | 4,800 | 6,940 |
| HFC-152a | 1.5 | 138 | 506 |
| HFC-227ea | 38.9 | 3,350 | 5,360 |
| HFC-236fa | 242 | 8,060 | 6,940 |
| HFC-43-10mee | 16.1 | 1,650 | 4,310 |
| $CF_4$ | 50,000 | 6,630 | 4,880 |
| $C_2F_6$ | 10,000 | 11,100 | 8,210 |
| $C_3F_8$ | 2,600 | 8,900 | 6,640 |
| $C_4F_{10}$ | 2,600 | 9,200 | 6,870 |
| c-$C_4F_8$ | 3,200 | 9,540 | 7,110 |
| $C_5F_{12}$ | 4,100 | 8,550 | 6,350 |
| $C_6F_{14}$ | 3,100 | 7,910 | 5,890 |
| $SF_6$ | 3,200 | 23,500 | 17,500 |

SOURCE: Intergovernmental Panel on Climate Change (IPCC) 2007, 2014.
GWP = growth warming potential
*The $CH_4$ and $N_2O$ 100-year GWPs included in CalEEMod are 25 and 298, respectively, from the IPCC Fourth Assessment Report. All other values are from the current Fifth Assessment Report.

# 2.0 Project Description

The proposed project is to construct an industrial warehouse development on three parcels (Assessor Parcel Numbers 263-060-022, 263-060-024, 263-060-026], totaling 48.64 gross acres. The property is located at the northeast corner of Barton Street and Alessandro Boulevard in the city of Riverside, immediately south of the Sycamore Canyon Wilderness Park. The property is spread in an east to west direction with natural rolling land descending gradually from a west to east direction. There are two jurisdictional drainages on the site. The undeveloped parcels are covered with a low to moderate growth of vegetation cover consisting of natural grasses and weeds with some granitic rock outcrops. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.




Project Location

# FIGURE 1
## Regional Location

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Image Source: Nearmap (flown September 2018)


FIGURE 2

Project Location on Aerial Photograph

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The project proposes subdividing the site into two parcels (Parcels 1 and 2), and three lettered parcels (Parcels A, B, and C). Each parcel is proposed to be developed with a high cube transload short-term warehouse building (Buildings A and B). Building A, a 400,000-square-foot warehouse, would be constructed on Parcel 1. Building B, a 203,100-square-foot warehouse, would be constructed on Parcel 2. Associated improvements include parking, fire lanes, fencing and walls (including retaining walls), landscaping, and water quality treatment areas.

Parcels A and Parcel B consist of existing Restricted Property of natural land, with a supporting jurisdictional feature, totaling approximately 11.6 acres. A 0.67-acre driveway would be constructed through the Restricted Property to provide street access from Alessandro Boulevard to Parcel 1, which would reduce the Restricted Property to 10.93 acres. However, 1.44 acres would be added to Parcel A to mitigate this loss, resulting in a total of 12.37 acres of Restricted Property (net gain of 0.77 acre). A Conservation Easement is proposed to be placed over the amended 12.37 acres of Restricted Property.

A trailhead parking lot is proposed on Parcel C, totaling 1.18 acres, for access to the Sycamore Canyon Wilderness Park. Improvements include a parking lot, sidewalk, shade structure, bike rack, drinking fountain, fencing, and a Fire Department access gate. Parcel C will be dedicated to the City. Figure 3 shows the site plan.

# 3.0 Existing Conditions

## 3.1 Environmental Setting

### 3.1.1 State and Regional GHG Inventories

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of $CO_2$ equivalent (MMT $CO_2E$). Table 2 shows the estimated statewide GHG emissions for the years 1990, 2010, and 2017. Although annual GHG inventory data is available for years 2000 through 2017, the years 1990, 2010, and 2017 are highlighted in Table 2 because 1990 is the baseline year for established reduction targets, 2010 corresponds to the same years for which inventory data for the City is available, and 2017 is the most recent data available.

Map Source: HPA Architecture

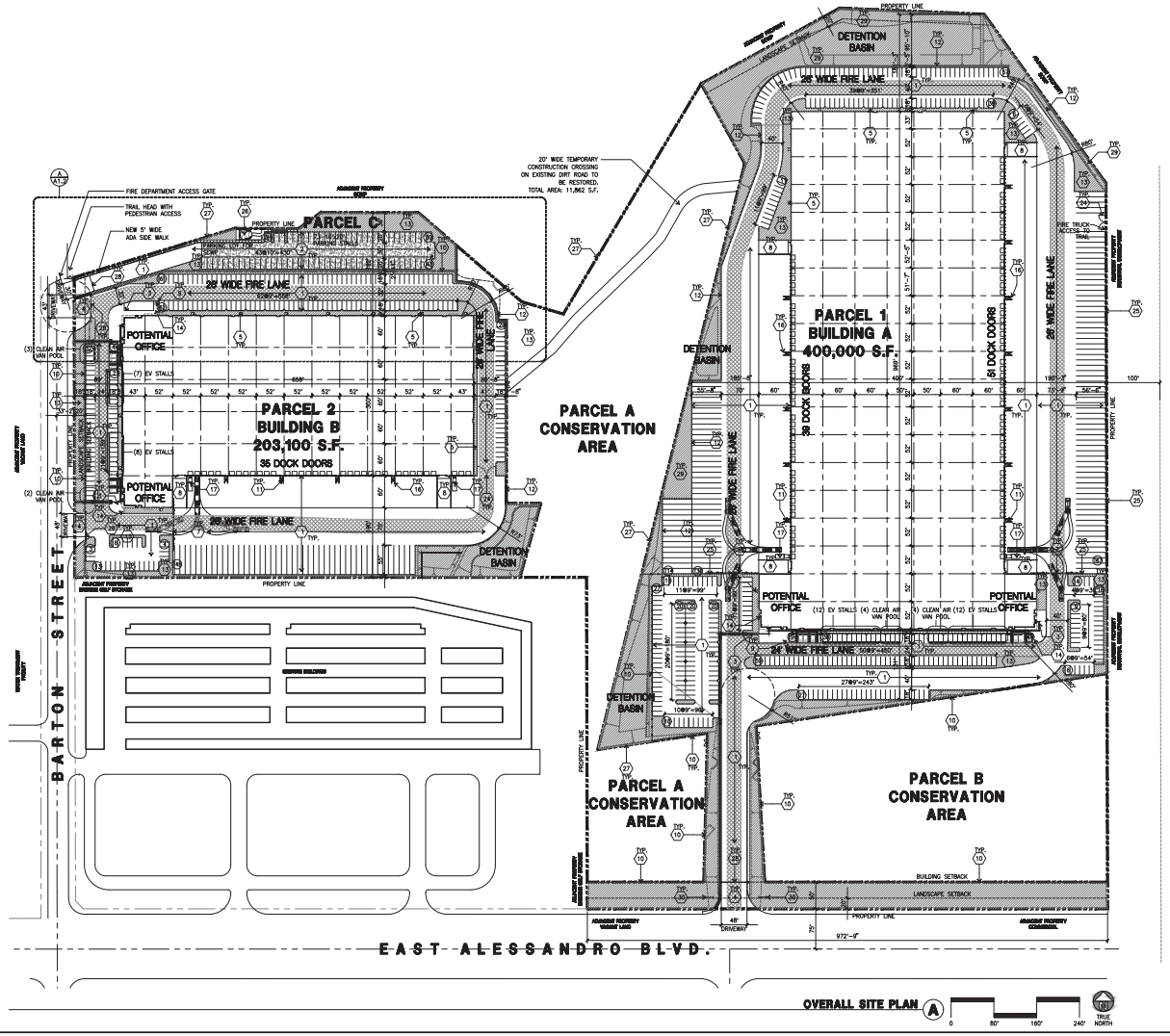


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FIGURE 3
Site Plan

| Table 2<br>California GHG Emissions By Sector in 1990, 2010, and 2017 | | | |
|---|---|---|---|
| Sector | 1990[1] Emissions in MMT $CO_2E$ (% total)[2] | 2010[3] Emissions in MMT $CO_2E$ (% total)[2] | 2017[3] Emissions in MMT $CO_2E$ (% total)[2] |
| Electricity Generation | 110.5 (25.7%) | 90.6 (20.2%) | 62.6 (14.8%) |
| Transportation | 150.6 (35.0%) | 170.2 (38.0%) | 174.3 (41.1%) |
| Industrial | 105.3 (24.4%) | 101.8 (22.7%) | 101.1 (23.8%) |
| Commercial | 14.4 (3.4%) | 20.1 (4.5%) | 23.3 (5.5%) |
| Residential | 29.7 (6.9%) | 32.1 (7.2%) | 30.4 (7.2%) |
| Agriculture & Forestry | 18.9 (4.4%) | 33.7 (7.5%) | 32.4 (7.6%) |
| Not Specified | 1.3 (0.3%) | -- | -- |
| **TOTAL[4]** | **430.7** | **448.5** | **424.1** |

SOURCE: CARB 2007 and 2019.
[1]1990 data was obtained from the CARB 2007 source and are based on IPCC fourth assessment report GWPs.
[2]Percentages may not total 100 due to rounding.
[3]2010 and 2017 data was retrieved from the CARB 2019 source and are based on IPCC fourth assessment report GWPs.
[4]Totals may vary due to independent rounding.

As shown in Table 2, statewide GHG source emissions totaled approximately 431 MMT $CO_2E$ in 1990, 449 MMT $CO_2E$ in 2010, and 424 MMT $CO_2E$ in 2017. Many factors affect year-to-year changes in GHG emissions, including economic activity, demographic influences, environmental conditions such as drought, and the impact of regulatory efforts to control GHG emissions. As shown, transportation-related emissions consistently contribute to the most GHG emissions.

A City of Riverside emissions inventory was prepared for baseline year 2010 as a part of the City's CAP. The total community-wide GHG emissions in 2010 were 2,617,540 MT $CO_2E$. Table 3 summarizes the sources and quantities of community emissions. The largest source of emissions is transportation.

| Table 3<br>City of Riverside GHG Emissions in 2010 | |
|---|---|
| Sector | 2010 GHG Emissions (MT $CO_2E$) |
| Residential Energy Use | 481,903 (18.4%) |
| Commercial/Industrial Energy Use | 722.321 (27.6%) |
| Transportation | 1,358,647 (51.9%) |
| Solid Waste | 54,669 (2.1%) |
| **TOTAL** | **2,617,540** |
| SOURCE: City of Riverside 2016. | |

## 3.2 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions. The following is a

discussion of the federal, state, and local plans and regulations most applicable to the project.

## 3.2.1 Federal

The federal government, U.S. EPA, and other federal agencies have many federal level programs and projects to reduce GHG emissions. In June 2012, the Council on Environmental Quality (CEQ) revised the Federal Greenhouse Gas Accounting and Reporting Guidance originally issued in October 2010. The CEQ guidance identifies ways in which federal agencies can improve consideration of GHG emissions and climate change for federal actions. The guidance states that National Environmental Policy Act documents should provide decision makers with relevant and timely information and should consider (1) GHG emissions of a Proposed Action and alternative actions and (2) the relationship of climate change effects to a Proposed Action or alternatives. Specifically, if a Proposed Action would be reasonably anticipated to cause direct emissions of 25,000 MT $CO_2E$ GHG emissions on an annual basis, agencies should consider this as an indicator that a quantitative assessment may be meaningful to decision makers and the public (CEQ 2012).

### 3.2.1.1 U.S. Environmental Protection Agency

In 2009, the U.S. EPA issued its science-based finding that the buildup of heat-trapping GHGs in the atmosphere endangers public health and welfare. The "Endangerment Finding" reflects the overwhelming scientific evidence on the causes and impacts of climate change. It was made after a thorough rulemaking process considering thousands of public comments, and was upheld by the federal courts.

The U.S. EPA has many federal level programs and projects to reduce GHG emissions. The U.S. EPA provides technical expertise and encourages voluntary reductions from the private sector. One of the voluntary programs applicable to the project is the Energy Star program. Energy Star products such as appliances, building products, heating and cooling equipment, and other energy-efficient equipment will be utilized by the project.

Energy Star is a joint program of U.S. EPA and the U.S. Department of Energy, which promotes energy-efficient products and practices. Tools and initiatives include the Energy Star Portfolio Manager, which helps track and assess energy and water consumption across an entire portfolio of buildings, and the Energy Star Most Efficient 2020, which provides information on exceptional products which represent the leading edge in energy-efficient products in the year 2020 (U.S. EPA 2020a).

The U.S. EPA also collaborates with the public sector, including states, tribes, localities and resource managers, to encourage smart growth, sustainability preparation, and renewable energy and climate change preparation. These initiatives include the Clean Energy – Environment State Partnership Program, the Climate Ready Water Utilities Initiative, the Climate Ready Estuaries Program, and the Sustainable Communities Partnership (U.S. EPA 2020b).

Additionally, in 2004, the U.S. EPA introduced the SmartWay program, which is a partnership between the U.S. EPA and the freight industry to reduce fuel consumption and emissions. The program provides a system for tracking and documenting information about fuel use and freight emissions across supply chains; helps companies identify more efficient carriers, transportation modes, equipment, and operations to improve sustainability and lower costs from goods movement, supports global energy security and offsets environmental risk; and reduces freight transportation-related emissions by accelerating the use of advanced fuel-saving technologies. SmartWay is supported by major transportation industry associations, environmental groups, state and local governments, international agencies, and the corporate community.

#### 3.2.1.2 Corporate Average Fuel Economy Standards

The project would generate vehicle trips. These vehicles would consume fuel and would result in GHG emissions. The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. The first phase of the program applied to passenger cars, new light-duty trucks, and medium-duty passenger cars with model years 2012 through 2016, and required these vehicles to achieve a standard equivalent to 35.5 miles per gallon (mpg). The second phase of the program applies to model years 2017 through 2025 and increased the standards to 54.5 mpg. Separate standards were also established for medium- and heavy-duty vehicles. The first phase applied to model years 2014 through 2018 and the second phase applies to model years 2018 through 2027. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

### 3.2.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

#### 3.2.2.1 Executive Orders and Statewide GHG Emission Targets

##### Executive Order S-3-05

This Executive Order (EO) established the following GHG emission reduction targets for the State of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020, reduce GHG emissions to 1990 levels;
- by 2050, reduce GHG emissions to 80 percent below 1990 levels.

This EO also directs the secretary of the California Environmental Protection Agency to oversee the efforts made to reach these targets, and to prepare biannual reports on the

progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006, and has since been updated every two years.

### Executive Order B-30-15

This EO, issued on April 29, 2015, establishes an interim GHG emission reduction goal for the state of California by 2030 of 40 percent below 1990 levels. This EO also directed all state agencies with jurisdiction over GHG emitting sources to implement measures designed to achieve the new interim 2030 goal, as well as the pre-existing, long-term 2050 goal identified in EO S-3-05. Additionally, this EO directed CARB to update its Climate Change Scoping Plan to address the 2030 goal.

## 3.2.2.2 California Global Warming Solutions Act

In response to EO S-3-05, the California Legislature passed AB 32, the California Global Warming Solutions Act of 2006, and thereby enacted Sections 38500–38599 of the California Health and Safety Code. The heart of AB 32 is its requirement that CARB establish an emissions cap and adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. AB 32 also required CARB to adopt a plan by January 1, 2009 indicating how emission reductions would be achieved from significant GHG sources via regulations, market mechanisms, and other actions.

In 2008, CARB estimated that annual statewide GHG emissions were 427 MMT $CO_2E$ in 1990 and would reach 596 MMT $CO_2E$ by 2020 under a business as usual (BAU) condition (CARB 2008). To achieve the mandate of AB 32, CARB determined that a 169 MMT$CO_2E$ (or approximate 28.5 percent) reduction in BAU emissions was needed by 2020. In 2010, CARB prepared an updated 2020 forecast to account for the recession and slower forecasted growth. CARB determined that the economic downturn reduced the 2020 BAU by 55 MMT $CO_2E$; as a result, achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 (not 28.5) percent from the 2020 BAU. California has been on track to achieve 1990 levels, and based on the GHG inventories shown in Table 2, achieved the goal by 2017.

Approved in September 2016, Senate Bill (SB) 32 updates the California Global Warming Solutions Act of 2006 and enacts EO B-30-15. Under SB 32, the state would reduce its GHG emissions to 40 percent below 1990 levels by 2030. This is equivalent to an emissions level of approximately 260 MMT $CO_2E$ for 2030. In implementing the 40 percent reduction goal, CARB is required to prioritize emissions reductions to consider the social costs of the emissions of GHGs; where "social costs" is defined as "an estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emission per year."

### 3.2.2.3 Climate Change Scoping Plan

As directed by the California Global Warming Solutions Act of 2006, in 2008, CARB adopted the *Climate Change Scoping Plan: A Framework for Change* (*Scoping Plan*), which identifies the main strategies California will implement to achieve the GHG reductions necessary to reduce forecasted business as usual (BAU) emissions in 2020 to the state's historic 1990 emissions level (CARB 2008). In November 2017, CARB released the 2017 Climate Change Scoping Plan Update, the Strategy for Achieving California's 2030 Greenhouse Gas Target (2017 Scoping Plan; CARB 2017). The 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan Scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, Renewables Portfolio Standard (RPS), Sustainable Communities Strategy, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. Additionally, the 2017 Scoping Plan proposes new policies to address GHG emissions from natural and working lands.

### 3.2.2.4 Regional Emissions Targets – Senate Bill 375

SB 375, the 2008 Sustainable Communities and Climate Protection Act, was signed into law in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's Regional Transportation Plan. Southern California Association of Governments (SCAG) is the region's MPO. In 2018, CARB set targets for the SCAG region of an 8 percent reduction in GHG emissions per capita from automobiles and light-duty trucks compared to 2005 levels by 2020 and a 19 percent reduction by 2035. These targets are periodically reviewed and updated.

### 3.2.2.5 Renewables Portfolio Standard (RPS)

The RPS promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "Initial RPS"), the goal has been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, SB 2 (1X) codified California's 33 percent RPS goal. In September 2015, the California Legislature passed SB 350, which increases California's renewable energy mix goal to 50 percent by year 2030. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

#### 3.2.2.6 Assembly Bill 341 – Solid Waste Diversion

The Commercial Recycling Requirements mandate that businesses (including public entities) that generate 4 cubic yards or more of commercial solid waste per week and multi-family residential with five units or more arrange for recycling services. Businesses can take one or any combination of the following in order to reuse, recycle, compost, or otherwise divert solid waste from disposal. Additionally, Assembly Bill (AB) 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020.

#### 3.2.2.7 California Code of Regulations, Title 24 – California Building Code

The California Code of Regulations, Title 24, is referred to as the California Building Code, or CBC. It consists of a compilation of several distinct standards and codes related to building construction, including plumbing, electrical, interior acoustics, energy efficiency, handicap accessibility, and so on. Of particular relevance to GHG reductions are the CBC's energy efficiency and green building standards as outlined below.

##### a. Title 24, Part 6 – Energy Efficiency Standards

The California Code of Regulations, Title 24, Part 6 is the California Energy Efficiency Standards for Residential and Nonresidential Buildings (also known as the California Energy Code). This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficient technologies and methodologies as they become available, and incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum standards.

The current version of the Energy Code, known as 2019 Title 24, or the 2019 Energy Code, became effective January 1, 2020. The Energy Code provides mandatory energy-efficiency measures as well as voluntary tiers for increased energy efficiency. The California Energy Commission (CEC), in conjunction with the California Public Utilities Commission, has adopted a goal that all new residential and commercial construction achieve zero net energy by 2020 and 2030, respectively. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC approved energy performance software that shows iterative increases in energy efficiency given the selection of various heating, ventilation, and air conditioning; sealing; glazing; insulation; and other components related to the building envelope.

### b. Title 24, Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 CBC). The most recent 2019 CALGreen institutes mandatory minimum environmental performance standards for all ground-up new construction of non-residential and residential structures. Local jurisdictions must enforce the minimum mandatory Green Building Standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- Outdoor water use requirements as outlined in local water efficient landscaping ordinances or current Model Water Efficient Landscape Ordinance standards, whichever is more stringent;
- Requirements for water conserving plumbing fixtures and fittings;
- 65 percent construction/demolition waste diverted from landfills;
- Infrastructure requirements for electric vehicle charging stations;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

Similar to the reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen mandatory requirements must be demonstrated through completion of compliance forms and worksheets.

## 3.2.2.8 Heavy-Duty Truck Regulations

### a. Tractor-Trailer GHG Regulation

CARB approved the Tractor-Trailer GHG Regulation to significantly reduce GHG emissions produced by certain heavy-duty tractor-trailers. The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers, or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low rolling resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low-rolling resistance tires. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices.

### b. Phase 1 and 2 Heavy-Duty Vehicle Standards

CARB has adopted heavy-duty vehicle standards for GHG emissions from heavy-duty trucks and engines sold in California. It establishes GHG emission limits on truck and engine manufacturers and harmonizes with the U.S. EPA rule for new trucks and engines nationally. Existing heavy-duty vehicle regulations in California include engine criteria emission standards, tractor-trailer GHG requirements to implement SmartWay strategies (i.e., the Heavy-Duty Tractor-Trailer Greenhouse Gas Regulation), and in-use fleet retrofit requirements such as the Truck and Bus Regulation. In September 2011, the U.S. EPA adopted their new rule for heavy-duty trucks and engines. The U.S. EPA rule has compliance requirements for new compression and spark ignition engines, as well as trucks from Class 2b through Class 8. Compliance requirements begin with model year 2014 with stringency levels increasing through model year 2018. The rule organizes truck compliance into three groupings, which include (a) heavy-duty pickups and vans; (b) vocational vehicles; and (c) combination tractors. The U.S. EPA rule does not regulate trailers.

CARB staff has worked jointly with the U.S. EPA and the National Highway Traffic Safety Administration on the next phase of federal GHG emission standards for medium- and heavy-duty vehicles, called federal Phase 2. The federal Phase 2 standards were built on the improvements in engine and vehicle efficiency required by the Phase 1 emission standards and represent a significant opportunity to achieve further GHG reductions for 2018 and later model year heavy-duty vehicles, including trailers.

## 3.2.3 Local

### 3.2.3.1 South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for air quality planning and regulation in the South Coast Air Basin. The SCAQMD addresses the impacts to climate change of projects subject to SCAQMD permit as a lead agency if they are the only agency having discretionary approval for the project and acts as a responsible agency when a land use agency must also approve discretionary permits for the project. The SCAQMD acts as an expert commenting agency for impacts to air quality. This expertise carries over to GHG emissions, so the agency helps local land use agencies through the development of models and emission thresholds that can be used to address GHG emissions.

In 2008, SCAQMD formed a Working Group to identify GHG emissions thresholds for land use projects that could be used by local lead agencies in the South Coast Air Basin. The Working Group developed several different options that are contained in the SCAQMD Draft Guidance Document – *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans*, that could be applied by lead agencies. The working group met again in 2010 to review the guidance. The SCAQMD Board has not approved the thresholds; however, the Guidance Document provides substantial evidence supporting the approaches to significance of GHG emissions that can be considered by the lead agency in

adopting its own threshold. The current interim thresholds consist of the following tiered approach (SCAQMD 2008, 2010):

- Tier 1 – The project is exempt from the California Environmental Quality Act (CEQA).
- Tier 2 – The project is consistent with an applicable regional GHG emissions reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 – Project GHG emissions represent an incremental increase below or mitigated to less than Significance Screening Levels, where
    - Residential/Commercial Screening Level
        - Option 1: 3,000 MT $CO_2E$ screening level for all residential/commercial land uses
        - Option 2: Screening level thresholds for land use type acceptable if used consistently by a lead agency:
            - Residential: 3,500 MT $CO_2E$
            - Commercial: 1,400 MT $CO_2E$
            - Mixed-Use: 3,000 MT $CO_2E$
    - 10,000 MT $CO_2E$ is the Permitted Industrial Screening Level
- Tier 4 – The project achieves performance standards, where performance standards may include:
    - Option 1: Percent emission reduction target. SCAQMD has no recommendation regarding this approach at this time.
    - Option 2: The project would implement substantial early implementation of measures identified in the CARB's Scoping Plan. This option has been folded into Option 3.
    - Option 3: SCAQMD Efficiency Targets.
        - 2020 Targets: 4.8 MT $CO_2E$ per service population (SP) for project-level analyses or 6.6 MT $CO_2E$ per SP for plan level analyses where service population includes residential and employment populations provided by a project.
        - 2035 Targets: 3.0 MT $CO_2E$ per SP for project-level analyses or 4.1 MT $CO_2E$ per SP for plan level analyses.
- Tier 5 – Offsets along or in combination with the above target Significance Screening Level. Offsets must be provided for a 30-year project life, unless the project life is limited by permit, lease, or other legally binding condition.

If a project complies with any one of these tiers, its impacts related to GHG emissions would be considered less than significant.

The SCAQMD's interim thresholds used the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the EO's objective would contribute to worldwide efforts to cap $CO_2$ concentrations at 450 parts per million, thus stabilizing global climate.

SCAQMD only has authority over GHG emissions from development projects that include air quality permits. At this time, it is unknown if the project would include stationary sources of emissions subject to SCAQMD permits. Notwithstanding, if the project requires a stationary permit, it would be subject to the applicable SCAQMD regulations.

SCAQMD Regulation XXVII, adopted in 2009 includes the following rules:

- Rule 2700 defines terms and post global warming potentials.
- Rule 2701, SoCal Climate Solutions Exchange, establishes a voluntary program to encourage, quantify, and certify voluntary, high quality certified GHG emission reductions in the SCAQMD.
- Rule 2702, GHG Reduction Program created a program to produce GHG emission reductions within the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

#### 3.2.3.2 General Plan

The City's General Plan (City of Riverside 2007) includes an Air Quality Element that provides a number of provisions and programs to reduce current pollution emissions, to require new development to include measures to comply with air quality standards and to address new air quality requirements. These programs also serve to reduce GHG emissions. The Air Quality Element contains objectives and policies related to land use strategies, transportation, stationary sources, energy conservation, public education, multi-jurisdictional cooperation, and sustainability.

#### 3.2.3.3 Riverside Restorative Growthprint

The Riverside Restorative Growthprint (RRG), adopted in January 2016, combines two plans: the Economic Prosperity Action Plan (RRG-EPAP) and the Climate Action Plan (RRG-CAP) (City of Riverside 2016). The RRG-CAP provides a roadmap for the City to achieve GHG emission reductions through 2035, and establishes policies and priorities enabling the City to implement strategies that fulfill the requirements of state initiatives AB 32 and SB 375. The RRG-CAP includes a baseline GHG inventory (for year 2007 and updated in 2010) for local government operations and for the community as a whole, and establishes emission reduction targets consistent with state law. In 2007, the City's total community-wide emissions were estimated at 3,024,066 MT $CO_2E$, while emissions resulting from municipal operations were responsible for approximately 122,525 MT $CO_2E$. In 2010, the community-wide and municipal operations emissions had decreased by approximately 13.4 percent, mainly due to City actions to reduce the carbon intensity of its electric portfolio. The RRG-CAP aims to reduce GHG emissions to 26.4 percent below year 2007 baseline emissions (15 percent below year 2010 baseline emissions) by 2020 for an emissions target of 2,224,908 MT $CO_2E$; and 49 percent below year 2007 baseline emissions by 2035 for an emissions target of 1,542,274 MT $CO_2E$.

The RRG-EPAP identifies opportunities where the community can reduce GHG emissions in a way that also advances economic growth and provide meaningful benefit to the

residents, employees, investors, and visitors to the City. While the RRG-CAP identifies GHG reduction measures and strategies, the RRG-EPAP identifies those measures and strategies that have the most potential to spur economic development.

# 4.0 Significance Criteria and Analysis Methodologies

## 4.1 Determining Significance

Based on the CEQA Guidelines Appendix G, impacts related to GHG emissions would be significant if the project would:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or
2. Conflict with the City's CAP or an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs.

The CEQA Guidelines allow lead agencies to establish significance thresholds for their respective jurisdictions. These significance thresholds may be adopted after considering thresholds of significance adopted or recommended by other public agencies or experts.

The City has not adopted its own GHG Thresholds of Significance for CEQA. The SCAQMD published its *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans* in 2008 (SCAQMD 2008). The interim thresholds are a tiered approach; projects may be determined to be less than significant under each tier or require further analysis under subsequent tiers. The five tiers are discussed in Section 3.2.3.1.

Consistent with the SCAQMD guidance, the recommended tiered approach for land use development projects in SCAQMD jurisdiction is assessment against the applicable screening levels. As the project is not exempt from CEQA and is not part of an approved local plan, project emissions are assessed against the industrial 10,000 MT $CO_2E$ screening level. This screening level is intended to exempt projects that are too small to have significant impacts from further analysis.

## 4.2 Calculation Methodology

The project's GHG emissions were calculated using the CalEEMod Version 2016.3.2 (California Air Pollution Control Officers Association [CAPCOA] 2017). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. CalEEMod can be used to calculate emissions from mobile (on-road vehicles), area (fireplaces, consumer products [cleansers, aerosols, and solvents], landscape maintenance equipment, architectural coatings), water and wastewater, and solid waste sources. GHG emissions are estimated in terms of total MT $CO_2E$.

The analysis methodology and input data are described in the following sections. Where project-specific data was not available, model inputs were based on information provided in the CalEEMod User's Guide (CAPCOA 2017). Operational emissions were calculated for the projected soonest project operational year of 2023.

### 4.2.1 Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in water use for fugitive dust control.

Every phase of the construction process, including demolition, grading, paving, and building, emits GHGs in volumes directly related to the quantity and type of construction equipment used when building the project. GHG emissions associated with each phase of project construction are calculated by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors. The number and pieces of construction equipment are calculated based on the project-specific design. In the absence of project-specific construction information, equipment for all phases of construction is estimated based on the project size.

Construction emissions were modeled assuming site preparation/grading would last three months, and the remaining construction activities (building, paving, landscaping, architectural coatings) would last approximately one year for a total construction duration of 15 months. During the grading phase, soil quantities would be balanced on site between the two building areas with no net import or export.

Table 4 summarizes the anticipated construction phases, duration, and equipment.

| Table 4<br>Construction Phases and Equipment | | |
|---|---|---|
| Equipment | Quantity | Daily Operation Time (Hours) |
| Site Preparation (18 days) | | |
| Rubber Tired Dozers | 3 | 8 |
| Tractors/Loaders/Backhoes | 4 | 8 |
| Grading (47 days) | | |
| Excavators | 2 | 8 |
| Graders | 1 | 8 |
| Rubber Tired Dozers | 1 | 8 |
| Scrapers | 2 | 8 |
| Tractors/Loaders/Backhoes | 2 | 8 |
| Building Construction (243 days) | | |
| Cranes | 1 | 7 |
| Forklifts | 3 | 8 |
| Generator Sets | 1 | 8 |
| Tractors/Loaders/Backhoes | 3 | 7 |
| Welders | 1 | 8 |
| Architectural Coatings (111 days) | | |
| Air Compressor | 1 | 6 |
| Paving (18 days) | | |
| Pavers | 2 | 8 |
| Paving Equipment | 2 | 8 |
| Rollers | 2 | 8 |
| NOTE: Each phase would also include vehicles associated with work commutes, dump trucks for hauling, and trucks for deliveries. | | |

Based on guidance from the SCAQMD, total construction GHG emissions resulting from a project should be amortized over 30 years and added to operational GHG emissions to account for their contribution to GHG emissions over the lifetime of a project (SCAQMD 2009).

### 4.2.2 Mobile Emissions

GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines. The vehicle emissions are calculated based on the vehicle type and the trip rate for each land use. The vehicle emission factors and fleet mix used in the current version of CalEEMod are derived from CARB's 2014 Emission Factors model (EMFAC2014; CARB 2014). In August 2019, the U.S. EPA approved the use of CARB's 2017 Emission Factor model (EMFAC2017). However, this had not yet been incorporated into CalEEMod, and there is no standardized approach to modifying the emission factors included in CalEEMod. Generally, vehicles have become cleaner over time; therefore, the mobile emissions would not be higher if CalEEMod were adjusted using EMFAC2017 emission factors.

Mobile source operational emissions are based on the trip rate, trip length, and vehicle mix. Total passenger vehicle and truck trip generation was obtained from the traffic report prepared for the project (Urban Crossroads 2019a). The trip lengths for passenger vehicles and trucks were obtained from the trip length analysis prepared for the project (Urban Crossroads 2019b). The project-specific trip generation and trip length data is summarized in Table 5.

| Table 5<br>Project Trip Generation and Trip Length | | |
|---|---|---|
| Vehicle Type | Daily Trip Generation (ADT) | Trip Length (miles) |
| Passenger Cars | 573 | 24.2 |
| Trucks | 274 | 38.7 |
| 2 axle | 46 | 38.7 |
| 3 axle | 57 | 38.7 |
| 4+-axle | 171 | 38.7 |
| **TOTAL** | **847** | -- |
| SOURCE: Urban Crossroads 2019a and 2019b.<br>ADT = average daily traffic | | |

### 4.2.3 Energy Use Emissions

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are emitted during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in association with a building's overall operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions. Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building, it is considered a direct emissions source associated with the building. CalEEMod estimates emissions from the direct combustion of natural gas for space and water heating.

CalEEMod estimates GHG emissions from energy use by multiplying average rates of residential and non-residential energy consumption by the quantities of residential units and non-residential square footage entered in the land use module to obtain total projected energy use. This value is then multiplied by electricity and natural gas GHG emission factors applicable to the project location and utility provider.

Energy consumption values are based on the CEC sponsored California Commercial End Use Survey and Residential Appliance Saturation Survey studies, which identify energy use by building type and climate zone. Because these studies are based on older buildings, adjustments have been made in CalEEMod to account for changes to Title 24 Building Codes. CalEEMod 2016.3.2 is based on the 2016 Title 24 energy code (Part 6 of the Building Code). The next version of the energy code, 2019 Title 24, went into effect on January 1, 2020. For non-residential buildings, it is estimated that the 2019 standards will decrease energy consumption by 30 percent (CEC 2018). The project would be subject to the 2019 Title 24 energy code standards. However, as a conservative analysis, GHG emissions were calculated assuming the default 2016 Title 24 energy code standards.

Electricity would be provided to the project by Riverside Public Utilities Therefore, Riverside Public Utilities' specific energy-intensity factors (i.e., the amount of $CO_2$, $CH_4$, and $NO_X$ per kilowatt-hour) are used in the calculations of GHG emissions. As discussed, the state mandate for renewable energy is 33 percent by 2020. However, the energy-intensity factors included in CalEEMod by default only represent an 18.4 percent procurement of renewable energy (Union of Concerned Scientists 2012). To account for the continuing effects of RPS, the

energy-intensity factors included in CalEEMod were adjusted to reflect the current procurement of 33 percent renewable energy. Riverside Public Utilities energy intensity factors are shown in Table 6.

**Table 6**
**Riverside Public Utilities Intensity Factors**

| GHG | 2009 (lbs/MWh) | 2020 (lbs/MWh) |
|---|---|---|
| Carbon Dioxide ($CO_2$) | 1,325.65 | 1,051.61 |
| Methane ($CH_4$) | 0.029 | 0.023 |
| Nitrous Oxide ($N_2O$) | 0.006 | 0.004 |
| SOURCE: CPUC 2017<br>lbs = pound; MWh = megawatt hour | | |

### 4.2.4 Area Source Emissions

Area sources include GHG emissions that would occur from the use of landscaping equipment. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. The landscaping equipment emission values were derived from the 2011 In-Use Off-Road Equipment Inventory Model (CARB 2011).

### 4.2.5 Water and Wastewater Emissions

The Western Municipal Water District would provide water to the project site. The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both $CH_4$ and $N_2O$.

The indoor and outdoor water use consumption data for each land use subtype comes from the Pacific Institute's Waste Not, Want Not: The Potential for Urban Water Conservation in California 2003 (as cited in CAPCOA 2017). Based on that report, a percentage of total water consumption was dedicated to landscape irrigation, which is used to determine outdoor water use. Wastewater generation was similarly based on a reported percentage of total indoor water use (CAPCOA 2017).

The project would be subject to CALGreen, which requires a 20 percent increase in indoor water use efficiency. Thus, in order to demonstrate compliance with CALGreen, a 20 percent reduction in indoor water use was included in the water consumption calculations for the project.

In addition to water reductions under CALGreen, the GHG emissions from the energy used to transport the water are affected by RPS. As discussed previously, to account for the effects of RPS through 2020, the energy-intensity factors included in CalEEMod were adjusted to reflect 33 percent renewable energy (see Table 6).

### 4.2.6 Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. To calculate the GHG emissions generated by disposing of solid waste for the project, the total volume of solid waste was calculated using waste disposal rates identified by California Department of Resources Recycling and Recovery (CalRecycle). The methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters. According to a CalRecyle report to the Legislature, as of 2013 California has achieved a statewide 50 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2015). However, AB 341 mandates that 75 percent of the solid waste generated be reduced, recycled, or composted by 2020. Therefore, to account for the continuing actions of recycling requirements under state law (i.e., AB 341), a 25 percent solid waste diversion rate was included in the model.

# 5.0 GHG Emission Calculations

Based on the methodology summarized in Section 4.2, the primary sources of direct and indirect GHG emissions have been calculated. Table 7 summarizes the estimated emissions. The complete model outputs are included in Attachment 1.

**Table 7**
**Summary of Project GHG Emissions**
**(metric tons per year)**

| Source | MT $CO_2$ | MT $CH_4$ | MT $N_2O$ | MT $CO_2E$ |
|---|---|---|---|---|
| Mobile – Passenger Cars | 1,204 | <1 | 0 | 1,204 |
| Mobile – Trucks | 4,316 | <1 | 0 | 4,320 |
| Energy Source | 781 | <1 | <1 | 782 |
| Area Sources | <1 | <1 | 0 | <1 |
| Water/Wastewater Sources | 728 | 4 | <1 | 846 |
| Solid Waste Sources | 86 | 5 | 1 | 214 |
| Construction (Amortized over 30 years) | 37 | <1 | 0 | 38 |
| **TOTAL** | **7,152** | **9** | **<1** | **7,405*** |
| *SCAQMD Significance Threshold for Industrial Sources* | | | | *10,000* |

MT $CO_2E$ = metric tons of carbon dioxide equivalent
MT $CH_4$ = metric tons of methane
MT $N_2O$ = metric tons of nitrous oxide
*As discussed in Section 1.2, the GWPs included in CalEEMod are from the IPCC Fourth Assessment Report. For informational purposes, total emissions calculated by CalEEMod were adjusted to account for the updated IPCC Fifth Assessment Report GWPs. Using the current GWPs, total annual project emissions would be 7,428 MT $CO_2$, and would also be less than the screening threshold. Note that the IPCC updates the GWPs periodically, and the next anticipated update will occur in 2022.

As shown in Table 7, the project would result in a net increase of 7,405 MT $CO_2E$ per year. As discussed previously, the SCAQMD's 10,000 MT $CO_2E$ screening level is appropriate for

exempting industrial projects that are too small to have significant impacts from further analysis.

# 6.0 GHG Impact Analysis

1. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

As discussed previously, this analysis uses SCAQMD's *Interim CEQA GHG Significance Thresholds for Stationary Sources, Rules, and Plans*. The interim thresholds are a tiered approach; project impacts may be determined to be less than significant under each tier or require further analysis under subsequent tiers. Because the project is subject to CEQA and is not subject to a regional GHG emissions reduction plan, the project does not fall under Tiers 1 or 2. As shown in Table 7, construction and operation of the project would result in the annual equivalent emission of 7,405 MT $CO_2E$ in 2023. Project GHG emissions would be less than the applicable SCAQMD screening level of 10,000 MT $CO_2E$ for industrial uses. As project emissions would be less than the 10,000 MT $CO_2E$ screening level, GHG emissions impacts would be less than significant without mitigation.

2. *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emission of GHGs?*

As discussed in Section 3.2.2, State Climate Change Regulations, EO S-3-05 established GHG emission reduction targets for the state, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach the 2020 target. As discussed above, the project emissions would be below the screening level of 10,000 MT $CO_2E$ for industrial uses. This threshold is based on the concept of establishing a 90 percent GHG emission capture rate. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to a CEQA analysis, which includes analyzing feasible alternatives and imposing feasible mitigation measures. The market capture rate is based on guidance from the California Air Pollution Control Officers Association (CAPCOA) report CEQA & Climate Change, dated January 2008, which identifies several potential approaches for assessing a project's GHG emissions (CAPCOA 2008). Following the market capture rate approach, a lead agency defines an acceptable capture rate and identifies the corresponding emissions level. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified market capture rate would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would therefore be less than cumulatively considerable. A 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions.

Project GHG emissions would be less than the applicable SCAQMD screening level of 10,000 MT $CO_2E$ for industrial uses. Further, project emissions would decline beyond the buildout year of the project, 2023, as a result of continued implementation of federal, state, and local reduction measures such as increased federal and state vehicle efficiency standards, and Riverside Public Utilities' increased renewable sources of energy in accordance with RPS goals. Based on currently available models and regulatory forecasting, project emissions would continue to decline through at least 2050. Given the reasonably anticipated decline in project emissions, once fully constructed and operational, the project is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05.

As noted in Section 3.2.2.3, the 2017 Scoping Plan identifies state strategies for achieving the state's 2030 interim GHG emissions reduction target codified by SB 32. Measures under the 2017 Scoping Plan scenario build on existing programs such as the Low Carbon Fuel Standard, Advanced Clean Cars Program, RPS, Sustainable Communities Strategy, Short-Lived Climate Pollutant Reduction Strategy, and the Cap-and-Trade Program. The project would comply with all applicable provisions contained in the 2017 Scoping Plan since the adopted regulations would apply to new development or the emission sectors associated with new development.

- **Transportation** – State regulations and 2017 Scoping Plan measures that would reduce the project's mobile source emissions include the California Light-Duty Vehicle GHG Standards (AB 1493/Pavley I and II), the Low Carbon Fuel Standard, and the heavy-duty truck regulations discussed in Section 3.2.2.8. These measures are implemented at the state level and would result in project-related mobile source GHG emissions.

- **Energy** – State regulations and 2017 Scoping Plan measures that would reduce the project's energy-related GHG emissions include RPS (see Section 3.2.2.5), Title 24 Energy Efficiency Standards (see Section 3.2.2.7a), and CALGreen (see Section 3.2.2.7b). The project would be served by Riverside Public Utilities, which has achieved 36 percent renewables as of 2017. The project's energy related GHG emissions would decrease as Riverside Public Utilities increases its renewables procurement beyond 2020 towards the 2030 goal of 50 percent. Additionally, the project would be constructed in accordance with energy efficiency standards effective at the time building permits are issued. The current 2019 Energy Code is estimated to decrease energy consumption by 30 percent for non-residential buildings when compared to the 2016 Title 24 Energy Code.

- **Water** – State regulations and 2017 Scoping Plan measures that would reduce the project's electricity consumption associated with water supply, treatment, and distribution, and wastewater treatment include RPS, CALGreen, and the Model Water Efficient Landscape Ordinance. The project would be required to reduce indoor water consumption by 20 percent in accordance with CALGreen. Additionally, the project would be subject to all City landscaping ordinance requirements.

- **Waste** – State regulations and 2017 Scoping Plan measures that would reduce the project's solid waste-related GHG emissions are related to landfill methane control, increases efficiency of landfill methane capture, and high recycling/zero waste. The project would be subject to CALGreen, which requires a diversion of construction and demolition waste from landfills. Additionally, the project would include recycling storage and would divert waste from landfills in accordance with AB 341.

In addition to meeting the SCAQMD screening thresholds, the project was evaluated for consistency with the strategies and actions contained in the RRG-CAP (see Section 3.2.3.3). To achieve the City's GHG emission reductions, the City's RRG-CAP includes reduction measures for each category of GHG emissions: transportation, energy, water, and solid waste. The RRG-CAP reduction measures further support the goals of SB 32 and the measures in the 2017 Scoping Plan. Table 8 summarizes the project's consistency with RRG-CAP measures. As discussed in this table, the project would be consistent with applicable RRG-CAP measures. The project would be required to comply with the regulations discussed above that have been adopted to implement the Scoping Plan and to achieve the SB 32 2030 target. As a result, the project would not conflict with applicable plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Impacts would be less than significant without mitigation.

**Table 8**
**Project Consistency with RRG-CAP GHG Reduction Measures**

| Number | Strategy/Goal | Project Consistency |
|---|---|---|
| **State and Regional Energy Measures** | | |
| *The following are state and regional measures that are expected to reduce GHG emissions associated with the energy sector.* | | |
| SR-1 | **Renewables Portfolio Standard (RPS)** Utilities must secure 33 percent of their power from renewable sources by 2020. | The project would be served by Riverside Public Utilities, which has achieved 36 percent renewables as of 2017. The project's energy related GHG emissions would decrease as Riverside Public Utilities increases its renewables procurement beyond 2020 towards the 2030 goal of 50 percent. The project would not conflict or interfere with RPS. |
| SR-2 | **2013 California Building Energy Efficiency Standards (Title 24, Part 6)** Mandatory energy efficiency standards for buildings. | The project would be constructed in accordance with energy efficiency standards effective at the time building permits are issued. The current 2019 Energy Code is estimated to decrease energy consumption by 30 percent for non-residential buildings when compared to the 2016 Title 24 Energy Code. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| SR-3 | **HERO Residential Program**<br>Financing for homeowners to make energy efficient, renewable energy, and water conservation improvements. | The project is not a residential project and therefore this measure does not apply to the project. |
| SR-4 | **HERO Commercial Program**<br>Financing for business owners to make energy efficient, renewable energy, and water conservation improvements. | The HERO Commercial program is a public-private partnership administered by Western Riverside Council of Governments (WRCOG), and provides financing for energy and water improvements to business owners. As the project is new warehouse construction, this measure does not apply to the project. The project would not conflict with WRCOG's implementation of the HERO program. |
| **State and Regional Transportation Measures** | | |
| *The following are state and regional measures that are expected to reduce GHG emissions associated with the transportation sector.* | | |
| SR-6 | **Pavley and Low Carbon Fuel Standard**<br>Requirements for vehicles to use cleaner fuels. | This measure is implemented at the State level. Project mobile-source GHG emissions would be reduced through implementation of these measures. The project would not conflict with implementation. |
| SR-7 | **Metrolink Expansion**<br>Additional Metrolink transit service provided to Western Riverside County. | Identified in SCAG's 2012 RTP/SCS, the Metrolink Perris Valley Line was extended from Riverside to Perris in Western Riverside County. The Perris Valley Line opened for service in 2016. Future employees could use the expansion to commute to the project site. |
| SR-8 | **Express Lanes**<br>Additional express lanes added along major freeways in western Riverside County. | The project would not interfere with construction of additional freeway express lanes. Project vehicle traffic would benefit from decreased freeway congestion. |
| SR-9 | **Congestion Pricing**<br>Expansion of the toll lanes along SR-91. | This measure does not apply directly to the project. The project would not interfere with the expansion of SR-91 toll lanes. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| SR-10 | **Telecommuting**<br>Work arrangement in which employees do not commute to a central place to work. | The project is a high-cube warehouse which would require employees to physically fulfill and transport goods. This measure does not apply to the project. |
| SR-11 | **Goods Movement**<br>Efficiency movement of goods through inland southern California. | The project would support the region's role as a major hub for importing and exporting goods. To implement this measure, at the state level more standards are being implemented to increase vehicle efficiencies and the 20162020 RTP/SCS and SCAQMD are supporting greater penetration of low-emission trucks in the region. The estimated GHG reductions associated with this measure account for the region's "share" of SCAG and SCAQMD's anticipated investments. The project would benefit from reductions associated with regional investments. Further, by providing additional warehouse space in the region, the project could reduce truck VMT by providing a hub closer to the region than further warehouses. |
| SR-12 | **Electric Vehicle Plan and Infrastructure**<br>Facilitate electric vehicle use by providing necessary infrastructure. | For the City of Riverside, this measure would be implemented by providing both public and private charging facilities, and by updating development codes to encourage or facilitate charging stations. The project would not interfere with implementation of this measure, and would be constructed in accordance with development codes in place at the time building permits are issued. The project would install conduits for vehicle charging stations. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| **State Solid Waste Measures** | | |
| *The following state measure is expected to reduce GHG emissions associated with the solid waste sector.* | | |
| SR-13 | **Construction & Demolition Waste Diversion**<br>Meet mandatory requirement to divert 50 percent of construction & demolition (C&D) waste from landfills by 2020 and exceed requirement by diverting 90 percent of C&D waste from landfills by 2035. | Project-related C&D waste would be sorted, recycled, and diverted from landfills in accordance with mandatory regulatory requirements. |
| **Local Energy Measures** | | |
| *The following are local measures that can be implemented to reduce GHG emissions associated with the energy sector.* | | |
| E-1 | **Traffic and Street Lights**<br>Replace traffic and streetlights with high-efficiency bulbs. | The project would not interfere with implementation of this measure. |
| E-2 | **Shade Trees**<br>Strategically plant trees at new residential developments to reduce the urban heat island effect. | This measure applies to residential development and does not apply to the project. |
| E-3 | **Local Utility Programs – Electricity**<br>Financing and incentives for business and homeowners to make energy efficient, renewable energy, and water conservation improvements. | To implement this measure, Riverside Public Utilities offers a selection of rebates and other incentives to assist property owners (residential and commercial) with the installation of energy- and water-saving products. This measure does not directly apply to the project. However, the project would be constructed in accordance with the Energy Code in place at the time building permits are issued, which would require the project to be more energy efficient than existing development. The project would also reduce water consumption in accordance with CALGreen. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| E-4 | **Renewable Energy Production on Public Property**<br>Large-scale renewable energy installation on publicly owned property and in public rights-of-way. | This measure encourages the City to seek opportunities to install renewable energy projects on public property, public facilities and in public rights of way. This measure does not apply to the project. |
| E-5 | **UC Riverside Carbon Neutral Program**<br>Collaborate with UC Riverside to achieve a carbon neutral campus. | The project is not associated with UC Riverside. This measure does not apply to the project. |
| E-6 | **Riverside Public Utilities Technology Grants**<br>Riverside Public Utilities grant programs to foster research, development and demonstration of innovative solutions to energy problems | Riverside Public Utilities offers energy technology grant programs to help foster the development of innovative solutions to energy problems. This measure does not apply to the project. |
| **Local Transportation Measures** | | |
| *The following are local measures that can be implemented to reduce GHG emissions associated with the transportation sector.* | | |
| T-1 | **Bicycle Infrastructure Improvements**<br>Expand on-street and off-street bicycle infrastructure, including bicycle lanes and bicycle trails. | Adjacent to the project site, Alessandro Boulevard is a Class 2 bicycle facility. The project driveway would connect to Alessandro Boulevard and the existing bicycle lanes to provide access to the project site. Additionally, the project would include the construction of a new parking lot to provide access to the Sycamore Canyon Wilderness Park trails. Additionally, the project would include secure bicycle parking at each building. |
| T-2 | **Bicycle Parking**<br>Provide additional options for bicycle parking. | The project would include secure bicycle parking at each building (at the northwest corner and entrance of Building B and at the southeast corner and entrance of Building A). |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| T-3 | **End of Trip Facilities**<br>Encourage use of non-motorized transportation modes by providing appropriate facilities and amenities for commuters. | The project would include secure bicycle parking at each building (at the northwest corner and entrance of Building B and at the southeast corner and entrance of Building A). Additionally, Building A would have 8 clean air/van pool parking spaces and 24 electric vehicle parking stalls, and Building B would have 5 clean air/van pool parking spaces and 15 electric vehicle parking stalls. The charging stations for the electric vehicle parking stalls would be provided by the future tenant. |
| T-4 | **Promotional Transportation Demand Management**<br>Encourage Transportation Demand Management strategies. | The project site is served by two existing bus routes. Route 20 runs along Alessandro Boulevard adjacent to the project site, providing service from Magnolia Center to Moreno Valley. Route 208 is a CommuterLink Express Route providing service from Temecula to the Riverside Metrolink. Consistent with Transportation Demand Management strategies, future employees would be encouraged to use these routes as an alternative form of transportation. The project would also provide secure bicycle parking. |
| T-5 | **Traffic Signal Coordination**<br>Incorporate technology to synchronize and coordinate traffic signals along local arterials. | This measure is the responsibility of the Public Works Departments and is currently in progress. This measure does not apply to the project. The project would not interfere with implementation of this measure. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| T-6 | **Density**<br>Improve jobs-housing balance and reduce vehicle miles traveled by increasing household and employment densities. | Single and multi-family residential neighborhoods are located south and west of the project site. The project would create new employment opportunities for near-by residents. In Riverside County, the 2012 jobs-housing balance was 0.89 jobs to household and the 2040 projection is 1.10 jobs to household, for an annual growth of 0.8 percent. |
| T-7 | **Mixed-Use Development**<br>Provide for a variety of development types and uses. | The project site is surrounded by single and multi-family neighborhoods as well as commercial and retail development. The project would create new employment opportunities for near-by residents, and future employees could utilize near-by commercial and retail business, in support of this measure. |
| T-8 | **Pedestrian Only Areas**<br>Encourage walking by providing pedestrian-only community areas. | This measure refers to urban, non-motorized pedestrian use areas within central business districts and major activity centers. This measure does not apply to the project. |
| T-9 | **Limited Parking Requirements for New Development**<br>Reduce requirements for vehicle parking in new development projects. | Limiting parking requirements would encourage modes of transportation other than single-occupancy vehicles, thereby reducing VMT and GHG emissions. The City's current Zoning Code authorizes a reduction in the number of required parking spaces for mixed-use development and/or stand-alone uses in mixed-use zones subject to the approval of a shared parking arrangement. The City's future specific plan and Zoning Code updates will provide an opportunity for the City to comprehensively review its parking requirements and further |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| | | incorporate state of the art techniques such as shared parking, parking cash out, and other specific strategies.<br><br>The project is not a mixed-use development; however, the applicant is requesting a variance to reduce the number of parking spaces required. |
| T-10 | **Bus Rapid Transit Service**<br>Implement bus rapid transit service in the subregion to provide alternative transportation options. | The project site is served by two existing bus routes. Route 20 runs along Alessandro Boulevard adjacent to the project site, providing service from Magnolia Center to Moreno Valley. Two Route 20 bus stops are located immediately adjacent to the project site along the southern boundary on Alessandro Boulevard. Route 208 is a CommuterLink Express Route providing service from Temecula to the Riverside Metrolink. Future employees could use these routes as an alternative form of transportation. The project would not interfere with the City's efforts to implement additional bus rapid transit. |
| T-11 | **Voluntary Transportation Demand Management (TDM)**<br>Encourage employers to create TDM programs for their employers. | Future employees would be encouraged to use existing public transit routes as an alternative form of transportation. |
| T-12 | **Accelerated Bike Plan Implementation**<br>Accelerate the implementation of all or specified components of a jurisdiction's adopted bike plan. | The City adopted a Bicycle Master Plan in 2007. Alessandro Boulevard is a Class 2 bicycle facility. The project driveway would connect to Alessandro Boulevard and the existing bicycle lanes to provide access to the project site. The project would provide secure bicycle parking, and would not interfere with implementation |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| | | of the City's Bicycle Master Plan. |
| T-13 | **Fixed Guideway Transit**<br>By 2020, complete feasibility study and by 2025 Introduce a fixed route transit service in the jurisdiction. | This measure applies specifically to the City's efforts on the "Riverside Reconnects" Streetcar feasibility study. This measure does not apply to the project. |
| T-14 | **Neighborhood Electric Vehicle Programs**<br>Implement development requirements to accommodate Neighborhood Electric Vehicles and supporting infrastructure. | This measure does not apply to the project. However, the project would install conduits for vehicle charging stations. |
| T-15 | **Subsidized Transit**<br>Increase access to transit by providing free or reduced passes. | The tenants are unknown at this stage of project design and, therefore, a commitment cannot be made that the future tenants would provide free or reduced transit passes to their employees. However, the project would not interfere with the ability for future tenants to provide transit passes. |
| T-16 | **Bike Share Program**<br>Create nodes offering bike sharing at key locations throughout the City. | This measure encourages bike sharing, implemented by third-party vendors, in Downtown, transit center, and mixed-use areas. This measure does not directly apply to the project. However, the project would include secure bicycle parking, and would not interfere with bike sharing in the region. |
| T-17 | **Car Share Program**<br>Offer Riverside residents the opportunity to use car sharing to satisfy short-term mobility needs. | Similar to bike sharing, car sharing is offered by third-party vendors. This measure does not directly apply to the project, and the project would not interfere with car sharing programs in the region. |
| T-18 | **SB 743 as Alternative to LOS**<br>Use SB 743 to incentivize development in the downtown and other areas served by transit. | The project is not located downtown. This measure does not apply to the project. |

| Table 8<br>Project Consistency with RRG-CAP GHG Reduction Measures | | |
|---|---|---|
| Number | Strategy/Goal | Project Consistency |
| T-19 | **Alternative Fuel and Vehicle Technology Infrastructure**<br>Promote the use of alternative fueled vehicles such as those powered by electric, natural gas, biodiesel, and fuel cells by Riverside residents and workers. | The project would install conduits for vehicle charging stations. |
| T-20 | **Eco-Corridor**<br>Create a geographically defined area(s) featuring best practices in sustainable urban design and green building focused on supporting both clean-tech and green businesses. | A potential location for an Eco-Corridor/Green Business Zone is the Magnolia-University Avenue corridor. The project is not located in a potential Eco-Corridor. This measure does not apply to the project. |
| **Local Water Measures** | | |
| *The following local measure is expected to reduce GHG emissions associated with the water sector.* | | |
| W-1 | **Water Conservation and Efficiency**<br>Reduce per capita water use by 20 percent by 2020. | As discussed, the project would be required to reduce indoor water consumption by 20 percent in accordance with CALGreen. |
| **Local Solid Waste Measures** | | |
| *The following are local measures that can be implemented to reduce GHG emissions associated with the solid waste sector.* | | |
| SW-1 | **Yard Waste Collection**<br>Provide green waste collection bins community-wide. | This measure applies to residential uses. This measure does not apply to the project. |
| SW-2 | **Food Scrap and Paper Diversion**<br>Divert food and paper waste from landfills by implementing commercial and residential collection program. | This measure applies to residential and commercial uses. This measure does not apply to the project. However, the project would include recycling storage and would divert waste from landfills in accordance with AB 341. |
| **Local Agriculture Measures** | | |
| *The following are local measures that can be implemented to reduce GHG emissions associated with the urban forest and the local food and agricultural sectors.* | | |
| A-1 | **Local Food and Agriculture**<br>Promote local food and agricultural programs. | The project is not associated with food or agricultural uses. This measure does not apply to the project. |

Additionally, the project was evaluated for consistency with the Western Riverside Council of Governments' *Good Neighbor Guidelines for Site New and/or Modified*

*Warehouse/Distribution Facilities* (Good Neighbor Guidelines; WRCOG 2005) as well as the City's own *Good Neighbor Guidelines for Siting New and/or Modified Warehouse Distribution Facilities* (Good Neighbor Guidelines; City of Riverside 2008). Both of these Good Neighbor Guidelines were designed to help minimize the impacts of diesel particulate matter from on-road trucks associated with warehouses and distribution centers on existing communities and sensitive receptors located in the region. On October 14, 2008 the City adopted its own Good Neighbor Guidelines. The City's Good Neighbor Guidelines are similar to the WRCOG with the City's being tailored to the City's unique characteristics and specific needs. Although the Good Neighbor Guidelines specifically address air quality issues, the recommended strategies also serve to reduce GHG emissions. These guidelines include the following goals that can be implemented at the regional level:

- Minimize exposure to diesel emissions to neighbors that are situated in close proximity to the warehouse/distribution center;
  - Recommended strategy: Design facilities to allow for the queuing of truck on-site and away from sensitive receptors. Conversely, prevent the queuing of trucks on streets or elsewhere outside of facility in compliance with Title 10 – Vehicles and Traffic – Chapter 10.44 – Stopping, Standing and Parking.

    Project consistency: Based on the project location and design, no truck queuing would occur next to sensitive receptors, which are located south of Alessandro Boulevard. Truck queuing would not occur outside the facility.

  - Recommended strategy: To the extent possible, locate driveways, loading docks and internal circulation route away from residential uses or any other sensitive receptors.

    Project consistency: Driveways, loading docks, and internal circulation routes are not adjacent to sensitive receptors. Further, as calculated in this analysis, emissions due to on-site operations would not expose sensitive receptors to substantial pollutant concentrations.

  - Recommended strategy: Conduct SCAQMD URBEMIS and EMFAC computer models as appropriate, to initially evaluate warehouse and distribution projects on a case by case basis to determine the significance of air quality impacts and whether air quality thresholds would be exceeded as a result of the project. Where thresholds are exceeded, a more detailed air quality specialist is required to be prepared and submitted by the project applicant.

    Project consistency: As calculated and concluded in this analysis, the project would not result in significant air quality impacts.

  - Recommended strategy: Enforce compliance with Riverside Municipal Code Section 19.880 – "Transportation Demand Management Regulations". This section of the Code requires trip reduction plans to be submitted for all businesses, including warehouses, with over one hundred employees to reduce

work-related vehicles trips by six and one half percent from the number of trips related to the project.

Project consistency: The project would include transportation demand management measures that would reduce emissions associated with employee trips. These include access to public transit (Routes 20 and 208), bicycle parking, clean air/van pool parking spaces, and electric vehicle parking.

- Eliminate diesel trucks from unnecessarily traversing through residential neighborhoods;
  - Recommended strategy: Require warehouse/distribution centers to establish a specific truck route between the warehouse/distribution center and the State Route 60 and Interstate 215 freeways for City approval as part of the Design Review process. In addition, a haul route plan for construction activities should also be provided as part of the Design Review process.

    Project consistency: The project site is located one mile west of Interstate 215, with direct access via Alessandro Boulevard which is an existing truck route.

  - Recommended strategy: Require warehouse/distribution centers to clearly specify all entrance and exit points on the site plan submitted for City review and approval.

    Project consistency: The project site plans indicate all entrance and exit points.

  - Recommended strategy: Require warehouse/distribution centers to provide on-site signage for directional guidance to trucks entering and exiting the facility.

    Project consistency: On-site signage for directional guidance will be provided.

  - Recommended strategy: Require warehouse/distribution centers to provide signage or flyers that advise truck drivers of the closest restaurants, fueling stations, truck repair facilities, lodging and entertainment.

    Project consistency: The future tenants are unknown at this time; however, this information is readily available to truck drivers.

- Eliminate trucks from using residential areas and repairing vehicles on the streets;
  - Recommended strategy: Enforce compliance with Riverside Municipal Code Section 10.44.155 – "Parking of certain commercial vehicles, trailers and semi-trailers prohibited; exceptions", Section 10.44.160 – "Parking of certain commercial vehicles prohibited in residential districts" and Section 10.44.040 "Parking for certain purposes prohibited".

    Project consistency: The project would comply with all Municipal Code requirements. No trucks would be parked off-site.

- Reduce and/or eliminate diesel idling within the warehouse/distribution center;
  - Recommended strategy: Promote the installation of on-site electric hook-ups to eliminate the idling of main and auxiliary engines during loading and unloading of cargo and when trucks are not in use – especially where Transportation Refrigeration Units are proposed to be used.

    Project consistency: The project would not include Transportation Refrigeration Units. All trucks would be required to comply with the CARB idling limit of 5 minutes.

  - Recommended strategy: Implement General Plan 2025 Program Final Program Environmental Impact Report, Mitigation Measure MM Air 12. This Mitigation Measure requires that all new truck terminals, warehouses and other shipping facilities requiring the use of refrigerated trucks and with more than 50 truck trips per day shall provide electrical hookups for the refrigerated units to reduce idling and its associated air quality pollutants. Additionally, future tenant improvements involving conversion of a warehouse for refrigeration storage shall include electrical hookups for refrigerated units.

    Project consistency: The project would not include Transportation Refrigeration Units or refrigeration storage.

  - Recommended strategy: Require signage (posted inside and outside of the warehouse facility) to inform truck drivers of CARB regulations, idling limits, authorized truck route, and designated truck parking locations. Post signs requesting truck drivers to turn off engines when not in use and restrict idling within facilities to less than 5 minutes.

    Project consistency: The project would include signage regarding idling limits, truck routes, and parking.

Additionally, the City's Guidelines recommend the enforcement of the Riverside Municipal Code.

The City is currently in the process of updating the Riverside Good Neighbor Guidelines. The updated guidelines include new limits of operations and require on-site electrical loading dock hook ups. The updated Good Neighbor Guidelines have not yet been adopted, but as proposed at the time of this report, the project would be in compliance with the proposed updates.

# 7.0 Conclusions

GHG emissions would result from construction and operation of the project. Construction activities emit GHGs primarily though the combustion of fuels in on- and off-road equipment and vehicles. Operational emissions include mobile, energy (electricity and natural gas), area (landscape maintenance equipment), water and wastewater, and solid waste sources. GHG emission associated with construction and operation of the project

were calculated and compared to the SCAQMD annual screening threshold of 10,000 MT $CO_2E$ for industrial uses. This threshold is based on the concept of establishing a GHG emission market capture rate. Following rationale presented in the CAPCOA Guidance, the aggregate emissions from all projects with individual annual emissions that are equal to or less than the identified market capture rate would not impede achievement of the state GHG emissions reduction targets codified by AB 32 (2006) and SB 32 (2016), and impacts under CEQA would, therefore, be less than cumulatively considerable. As shown in Table 7, the project would result in a net increase of 7,405 MT $CO_2E$ per year. As project emissions would be less than the 10,000 MT $CO_2E$ screening level, GHG emissions impacts would be less than significant. Additionally, the project would be consistent with applicable 2017 Scoping Plan and RRG-CAP measures, and is in line with the GHG reductions needed to achieve the 2050 GHG emission reduction targets identified by EO S-3-05. GHG impacts would be less than significant without mitigation.

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# ATTACHMENT 1

# CalEEMod Output

# 9309 Sycamore Hills Distribution Center - Passenger Cars

**South Coast Air Basin, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 603.10 | 1000sqft | 16.00 | 603,100.00 | 0 |
| Other Asphalt Surfaces | 16.00 | Acre | 16.00 | 696,960.00 | 0 |
| Parking Lot | 5.00 | Acre | 5.00 | 217,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 31 |
| **Climate Zone** | 10 | | | **Operational Year** | 2023 |
| **Utility Company** | Riverside Public Utilities | | | | |
| **CO2 Intensity (lb/MWhr)** | 1051.61 | **CH4 Intensity (lb/MWhr)** | 0.023 | **N2O Intensity (lb/MWhr)** | 0.005 |

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

9309 Sycamore Hills Distribution Center - Passenger Cars - South Coast Air Basin, Annual

Project Characteristics - RPS - 33% goal by 2020, 18.4% accounted for in CalEEMod

Land Use - 37 acre site
603,100 sf

Construction Phase - Grading/Prliminary Road Construction - 3 months
Building Permit/Building Construction - 12 months

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - CalEEMod applies same worker/vendor trip rates to parking/asphalt surfaces as it does to office/industrial building construction, resulting in overestimate of actual trips. Default trips adjusted to reflect builing construction of buildings only

Grading -

Architectural Coating - SCAQMD Rule 1113 - Building Envelope and Non-Flat Coating limit = 50 g/L

Vehicle Trips - 847 ADT
Passenger cars - 573 (0.95 trips/ksf)
24.2 mile trip length

Area Coating -

Energy Use -

Water And Wastewater - CalGreen requires 20% reduction in indoor water use (111,573,500 gallons)

Construction Off-road Equipment Mitigation - 61% fugitive dust reduction associated with watering

Waste Mitigation -

Fleet Mix - Passenger cars only

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblConstDustMitigation | WaterExposedAreaPM10PercentReduction | 55 | 61 |
| tblConstDustMitigation | WaterExposedAreaPM25PercentReduction | 55 | 61 |
| tblConstructionPhase | NumDays | 55.00 | 111.00 |
| tblConstructionPhase | NumDays | 740.00 | 243.00 |

| | | | |
|---|---|---|---|
| tblConstructionPhase | NumDays | 75.00 | 47.00 |
| tblConstructionPhase | NumDays | 55.00 | 18.00 |
| tblConstructionPhase | NumDays | 30.00 | 18.00 |
| tblConstructionPhase | PhaseEndDate | 11/27/2024 | 6/30/2022 |
| tblConstructionPhase | PhaseEndDate | 6/26/2024 | 6/6/2022 |
| tblConstructionPhase | PhaseEndDate | 8/25/2021 | 6/30/2021 |
| tblConstructionPhase | PhaseEndDate | 9/11/2024 | 6/30/2022 |
| tblConstructionPhase | PhaseEndDate | 5/12/2021 | 4/26/2021 |
| tblConstructionPhase | PhaseStartDate | 9/12/2024 | 1/27/2022 |
| tblConstructionPhase | PhaseStartDate | 8/26/2021 | 7/1/2021 |
| tblConstructionPhase | PhaseStartDate | 5/13/2021 | 4/27/2021 |
| tblConstructionPhase | PhaseStartDate | 6/27/2024 | 6/7/2022 |
| tblFleetMix | HHD | 0.03 | 0.00 |
| tblFleetMix | LDA | 0.55 | 1.00 |
| tblFleetMix | LDT1 | 0.04 | 0.00 |
| tblFleetMix | LDT2 | 0.20 | 0.00 |
| tblFleetMix | LHD1 | 0.02 | 0.00 |
| tblFleetMix | LHD2 | 5.8470e-003 | 0.00 |
| tblFleetMix | MCY | 4.8220e-003 | 0.00 |
| tblFleetMix | MDV | 0.12 | 0.00 |
| tblFleetMix | MH | 8.6900e-004 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.00 |
| tblFleetMix | OBUS | 2.1100e-003 | 0.00 |
| tblFleetMix | SBUS | 7.1000e-004 | 0.00 |
| tblFleetMix | UBUS | 1.7690e-003 | 0.00 |
| tblLandUse | LotAcreage | 13.85 | 16.00 |
| tblProjectCharacteristics | CH4IntensityFactor | 0.029 | 0.023 |

| | | | |
|---|---|---|---|
| tblProjectCharacteristics | CO2IntensityFactor | 1325.65 | 1051.61 |
| tblProjectCharacteristics | N2OIntensityFactor | 0.006 | 0.005 |
| tblTripsAndVMT | VendorTripNumber | 249.00 | 99.00 |
| tblTripsAndVMT | WorkerTripNumber | 638.00 | 253.00 |
| tblVehicleTrips | CC_TL | 8.40 | 24.20 |
| tblVehicleTrips | CNW_TL | 6.90 | 24.20 |
| tblVehicleTrips | CW_TL | 16.60 | 24.20 |
| tblVehicleTrips | ST_TR | 1.68 | 0.95 |
| tblVehicleTrips | SU_TR | 1.68 | 0.95 |
| tblVehicleTrips | WD_TR | 1.68 | 0.95 |
| tblWater | IndoorWaterUseRate | 139,466,875.00 | 111,573,500.00 |

## 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 | 0.3498 | 3.2944 | 2.7754 | 7.0400e-003 | 0.5977 | 0.1311 | 0.7288 | 0.2363 | 0.1219 | 0.3582 | 0.0000 | 635.4736 | 635.4736 | 0.1027 | 0.0000 | 638.0416 |
| 2022 | 1.7663 | 1.6114 | 1.9537 | 5.4000e-003 | 0.2681 | 0.0572 | 0.3253 | 0.0720 | 0.0540 | 0.1260 | 0.0000 | 489.3229 | 489.3229 | 0.0508 | 0.0000 | 490.5933 |
| **Maximum** | **1.7663** | **3.2944** | **2.7754** | **7.0400e-003** | **0.5977** | **0.1311** | **0.7288** | **0.2363** | **0.1219** | **0.3582** | **0.0000** | **635.4736** | **635.4736** | **0.1027** | **0.0000** | **638.0416** |

### 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 | 0.3498 | 3.2944 | 2.7754 | 7.0400e-003 | 0.3742 | 0.1311 | 0.5053 | 0.1302 | 0.1219 | 0.2521 | 0.0000 | 635.4732 | 635.4732 | 0.1027 | 0.0000 | 638.0413 |
| 2022 | 1.7663 | 1.6114 | 1.9537 | 5.4000e-003 | 0.2681 | 0.0572 | 0.3253 | 0.0720 | 0.0540 | 0.1260 | 0.0000 | 489.3228 | 489.3228 | 0.0508 | 0.0000 | 490.5931 |
| **Maximum** | **1.7663** | **3.2944** | **2.7754** | **7.0400e-003** | **0.3742** | **0.1311** | **0.5053** | **0.1302** | **0.1219** | **0.2521** | **0.0000** | **635.4732** | **635.4732** | **0.1027** | **0.0000** | **638.0413** |

| | ROG | NOx | 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** | **25.82** | **0.00** | **21.20** | **34.41** | **0.00** | **21.91** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

9309 Sycamore Hills Distribution Center - Passenger Cars - South Coast Air Basin, Annual

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 4-1-2021 | 6-30-2021 | 1.5909 | 1.5909 |
| 2 | 7-1-2021 | 9-30-2021 | 1.0134 | 1.0134 |
| 3 | 10-1-2021 | 12-31-2021 | 1.0189 | 1.0189 |
| 4 | 1-1-2022 | 3-31-2022 | 1.5970 | 1.5970 |
| 5 | 4-1-2022 | 6-30-2022 | 1.7787 | 1.7787 |
| | | Highest | 1.7787 | 1.7787 |

## 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Energy | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 780.6198 | 780.6198 | 0.0169 | 4.6000e-003 | 782.4126 |
| Mobile | 0.1150 | 0.2458 | 3.1992 | 0.0133 | 1.7549 | 0.0107 | 1.7656 | 0.4659 | 9.8300e-003 | 0.4757 | 0.0000 | 1,203.5080 | 1,203.5080 | 0.0211 | 0.0000 | 1,204.0349 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 115.0776 | 0.0000 | 115.0776 | 6.8009 | 0.0000 | 285.0999 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 35.3971 | 692.9882 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | **2.6530** | **0.3059** | **3.2575** | **0.0137** | **1.7549** | **0.0153** | **1.7702** | **0.4659** | **0.0144** | **0.4803** | **150.4747** | **2,677.1315** | **2,827.6062** | **10.4897** | **0.0937** | **3,117.7824** |

## 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Energy | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 780.6198 | 780.6198 | 0.0169 | 4.6000e-003 | 782.4126 |
| Mobile | 0.1150 | 0.2458 | 3.1992 | 0.0133 | 1.7549 | 0.0107 | 1.7656 | 0.4659 | 9.8300e-003 | 0.4757 | 0.0000 | 1,203.5080 | 1,203.5080 | 0.0211 | 0.0000 | 1,204.0349 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 86.3082 | 0.0000 | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 35.3971 | 692.9882 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | **2.6530** | **0.3059** | **3.2575** | **0.0137** | **1.7549** | **0.0153** | **1.7702** | **0.4659** | **0.0144** | **0.4803** | **121.7053** | **2,677.1315** | **2,798.8368** | **8.7895** | **0.0937** | **3,046.5075** |

| | ROG | NOx | 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** | **19.12** | **0.00** | **1.02** | **16.21** | **0.00** | **2.29** |

## 3.0 Construction Detail

**Construction Phase**

9309 Sycamore Hills Distribution Center - Passenger Cars - South Coast Air Basin, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 4/1/2021 | 4/26/2021 | 5 | 18 | |
| 2 | Grading | Grading | 4/27/2021 | 6/30/2021 | 5 | 47 | |
| 3 | Building Construction | Building Construction | 7/1/2021 | 6/6/2022 | 5 | 243 | |
| 4 | Paving | Paving | 6/7/2022 | 6/30/2022 | 5 | 18 | |
| 5 | Architectural Coatings | Architectural Coating | 1/27/2022 | 6/30/2022 | 5 | 111 | |

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

**Acres of Grading (Grading Phase): 117.5**

**Acres of Paving: 21**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 904,650; Non-Residential Outdoor: 301,550; Striped Parking Area: 54,886 (Architectural Coating – sqft)**

**OffRoad Equipment**

9309 Sycamore Hills Distribution Center - Passenger Cars - South Coast Air Basin, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Architectural Coatings | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |

**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 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 253.00 | 99.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coatings | 1 | 128.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 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 | | | | | 0.1626 | 0.0000 | 0.1626 | 0.0894 | 0.0000 | 0.0894 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0350 | 0.3645 | 0.1904 | 3.4000e-004 | | 0.0184 | 0.0184 | | 0.0169 | 0.0169 | 0.0000 | 30.0922 | 30.0922 | 9.7300e-003 | 0.0000 | 30.3355 |
| **Total** | **0.0350** | **0.3645** | **0.1904** | **3.4000e-004** | **0.1626** | **0.0184** | **0.1810** | **0.0894** | **0.0169** | **0.1063** | **0.0000** | **30.0922** | **30.0922** | **9.7300e-003** | **0.0000** | **30.3355** |

## 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 | 6.7000e-004 | 5.0000e-004 | 5.6500e-003 | 2.0000e-005 | 1.7800e-003 | 1.0000e-005 | 1.7900e-003 | 4.7000e-004 | 1.0000e-005 | 4.8000e-004 | 0.0000 | 1.5498 | 1.5498 | 4.0000e-005 | 0.0000 | 1.5508 |
| **Total** | **6.7000e-004** | **5.0000e-004** | **5.6500e-003** | **2.0000e-005** | **1.7800e-003** | **1.0000e-005** | **1.7900e-003** | **4.7000e-004** | **1.0000e-005** | **4.8000e-004** | **0.0000** | **1.5498** | **1.5498** | **4.0000e-005** | **0.0000** | **1.5508** |

### 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 | | | | | 0.0634 | 0.0000 | 0.0634 | 0.0349 | 0.0000 | 0.0349 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0350 | 0.3645 | 0.1904 | 3.4000e-004 | | 0.0184 | 0.0184 | | 0.0169 | 0.0169 | 0.0000 | 30.0921 | 30.0921 | 9.7300e-003 | 0.0000 | 30.3354 |
| **Total** | **0.0350** | **0.3645** | **0.1904** | **3.4000e-004** | **0.0634** | **0.0184** | **0.0818** | **0.0349** | **0.0169** | **0.0518** | **0.0000** | **30.0921** | **30.0921** | **9.7300e-003** | **0.0000** | **30.3354** |

## 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 | 6.7000e-004 | 5.0000e-004 | 5.6500e-003 | 2.0000e-005 | 1.7800e-003 | 1.0000e-005 | 1.7900e-003 | 4.7000e-004 | 1.0000e-005 | 4.8000e-004 | 0.0000 | 1.5498 | 1.5498 | 4.0000e-005 | 0.0000 | 1.5508 |
| **Total** | **6.7000e-004** | **5.0000e-004** | **5.6500e-003** | **2.0000e-005** | **1.7800e-003** | **1.0000e-005** | **1.7900e-003** | **4.7000e-004** | **1.0000e-005** | **4.8000e-004** | **0.0000** | **1.5498** | **1.5498** | **4.0000e-005** | **0.0000** | **1.5508** |

## 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 | | | | | 0.2038 | 0.0000 | 0.2038 | 0.0845 | 0.0000 | 0.0845 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0985 | 1.0904 | 0.7256 | 1.4600e-003 | | 0.0467 | 0.0467 | | 0.0429 | 0.0429 | 0.0000 | 128.0632 | 128.0632 | 0.0414 | 0.0000 | 129.0987 |
| **Total** | **0.0985** | **1.0904** | **0.7256** | **1.4600e-003** | **0.2038** | **0.0467** | **0.2505** | **0.0845** | **0.0429** | **0.1274** | **0.0000** | **128.0632** | **128.0632** | **0.0414** | **0.0000** | **129.0987** |

## 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 | 1.9500e-003 | 1.4500e-003 | 0.0164 | 5.0000e-005 | 5.1600e-003 | 4.0000e-005 | 5.2000e-003 | 1.3700e-003 | 4.0000e-005 | 1.4100e-003 | 0.0000 | 4.4963 | 4.4963 | 1.2000e-004 | 0.0000 | 4.4993 |
| **Total** | **1.9500e-003** | **1.4500e-003** | **0.0164** | **5.0000e-005** | **5.1600e-003** | **4.0000e-005** | **5.2000e-003** | **1.3700e-003** | **4.0000e-005** | **1.4100e-003** | **0.0000** | **4.4963** | **4.4963** | **1.2000e-004** | **0.0000** | **4.4993** |

### 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 | | | | | 0.0795 | 0.0000 | 0.0795 | 0.0330 | 0.0000 | 0.0330 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0985 | 1.0904 | 0.7256 | 1.4600e-003 | | 0.0467 | 0.0467 | | 0.0429 | 0.0429 | 0.0000 | 128.0631 | 128.0631 | 0.0414 | 0.0000 | 129.0985 |
| **Total** | **0.0985** | **1.0904** | **0.7256** | **1.4600e-003** | **0.0795** | **0.0467** | **0.1262** | **0.0330** | **0.0429** | **0.0759** | **0.0000** | **128.0631** | **128.0631** | **0.0414** | **0.0000** | **129.0985** |

## 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 | 1.9500e-003 | 1.4500e-003 | 0.0164 | 5.0000e-005 | 5.1600e-003 | 4.0000e-005 | 5.2000e-003 | 1.3700e-003 | 4.0000e-005 | 1.4100e-003 | 0.0000 | 4.4963 | 4.4963 | 1.2000e-004 | 0.0000 | 4.4993 |
| **Total** | **1.9500e-003** | **1.4500e-003** | **0.0164** | **5.0000e-005** | **5.1600e-003** | **4.0000e-005** | **5.2000e-003** | **1.3700e-003** | **4.0000e-005** | **1.4100e-003** | **0.0000** | **4.4963** | **4.4963** | **1.2000e-004** | **0.0000** | **4.4993** |

## 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 | 0.1255 | 1.1505 | 1.0940 | 1.7800e-003 | | 0.0633 | 0.0633 | | 0.0595 | 0.0595 | 0.0000 | 152.8806 | 152.8806 | 0.0369 | 0.0000 | 153.8027 |
| **Total** | **0.1255** | **1.1505** | **1.0940** | **1.7800e-003** | | **0.0633** | **0.0633** | | **0.0595** | **0.0595** | **0.0000** | **152.8806** | **152.8806** | **0.0369** | **0.0000** | **153.8027** |

## 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 | 0.0188 | 0.6356 | 0.1606 | 1.6300e-003 | 0.0412 | 1.2900e-003 | 0.0425 | 0.0119 | 1.2400e-003 | 0.0131 | 0.0000 | 158.6498 | 158.6498 | 0.0102 | 0.0000 | 158.9055 |
| Worker | 0.0694 | 0.0515 | 0.5828 | 1.7700e-003 | 0.1832 | 1.3800e-003 | 0.1846 | 0.0487 | 1.2700e-003 | 0.0499 | 0.0000 | 159.7418 | 159.7418 | 4.3000e-003 | 0.0000 | 159.8492 |
| **Total** | **0.0882** | **0.6871** | **0.7434** | **3.4000e-003** | **0.2244** | **2.6700e-003** | **0.2271** | **0.0605** | **2.5100e-003** | **0.0631** | **0.0000** | **318.3916** | **318.3916** | **0.0145** | **0.0000** | **318.7547** |

### 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 | 0.1255 | 1.1505 | 1.0940 | 1.7800e-003 | | 0.0633 | 0.0633 | | 0.0595 | 0.0595 | 0.0000 | 152.8804 | 152.8804 | 0.0369 | 0.0000 | 153.8025 |
| **Total** | **0.1255** | **1.1505** | **1.0940** | **1.7800e-003** | | **0.0633** | **0.0633** | | **0.0595** | **0.0595** | **0.0000** | **152.8804** | **152.8804** | **0.0369** | **0.0000** | **153.8025** |

## 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 | 0.0188 | 0.6356 | 0.1606 | 1.6300e-003 | 0.0412 | 1.2900e-003 | 0.0425 | 0.0119 | 1.2400e-003 | 0.0131 | 0.0000 | 158.6498 | 158.6498 | 0.0102 | 0.0000 | 158.9055 |
| Worker | 0.0694 | 0.0515 | 0.5828 | 1.7700e-003 | 0.1832 | 1.3800e-003 | 0.1846 | 0.0487 | 1.2700e-003 | 0.0499 | 0.0000 | 159.7418 | 159.7418 | 4.3000e-003 | 0.0000 | 159.8492 |
| **Total** | **0.0882** | **0.6871** | **0.7434** | **3.4000e-003** | **0.2244** | **2.6700e-003** | **0.2271** | **0.0605** | **2.5100e-003** | **0.0631** | **0.0000** | **318.3916** | **318.3916** | **0.0145** | **0.0000** | **318.7547** |

## 3.4 Building Construction - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0947 | 0.8667 | 0.9082 | 1.4900e-003 | | 0.0449 | 0.0449 | | 0.0422 | 0.0422 | 0.0000 | 128.6075 | 128.6075 | 0.0308 | 0.0000 | 129.3778 |
| **Total** | **0.0947** | **0.8667** | **0.9082** | **1.4900e-003** | | **0.0449** | **0.0449** | | **0.0422** | **0.0422** | **0.0000** | **128.6075** | **128.6075** | **0.0308** | **0.0000** | **129.3778** |

## 3.4 Building Construction - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0148 | 0.5071 | 0.1279 | 1.3600e-003 | 0.0346 | 9.5000e-004 | 0.0356 | 9.9900e-003 | 9.1000e-004 | 0.0109 | 0.0000 | 132.2316 | 132.2316 | 8.3000e-003 | 0.0000 | 132.4391 |
| Worker | 0.0548 | 0.0391 | 0.4525 | 1.4300e-003 | 0.1541 | 1.1300e-003 | 0.1552 | 0.0409 | 1.0400e-003 | 0.0420 | 0.0000 | 129.5169 | 129.5169 | 3.2700e-003 | 0.0000 | 129.5986 |
| **Total** | **0.0696** | **0.5463** | **0.5804** | **2.7900e-003** | **0.1887** | **2.0800e-003** | **0.1908** | **0.0509** | **1.9500e-003** | **0.0529** | **0.0000** | **261.7485** | **261.7485** | **0.0116** | **0.0000** | **262.0377** |

### 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 | 0.0947 | 0.8667 | 0.9082 | 1.4900e-003 | | 0.0449 | 0.0449 | | 0.0422 | 0.0422 | 0.0000 | 128.6074 | 128.6074 | 0.0308 | 0.0000 | 129.3776 |
| **Total** | **0.0947** | **0.8667** | **0.9082** | **1.4900e-003** | | **0.0449** | **0.0449** | | **0.0422** | **0.0422** | **0.0000** | **128.6074** | **128.6074** | **0.0308** | **0.0000** | **129.3776** |

## 3.4 Building Construction - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0148 | 0.5071 | 0.1279 | 1.3600e-003 | 0.0346 | 9.5000e-004 | 0.0356 | 9.9900e-003 | 9.1000e-004 | 0.0109 | 0.0000 | 132.2316 | 132.2316 | 8.3000e-003 | 0.0000 | 132.4391 |
| Worker | 0.0548 | 0.0391 | 0.4525 | 1.4300e-003 | 0.1541 | 1.1300e-003 | 0.1552 | 0.0409 | 1.0400e-003 | 0.0420 | 0.0000 | 129.5169 | 129.5169 | 3.2700e-003 | 0.0000 | 129.5986 |
| **Total** | **0.0696** | **0.5463** | **0.5804** | **2.7900e-003** | **0.1887** | **2.0800e-003** | **0.1908** | **0.0509** | **1.9500e-003** | **0.0529** | **0.0000** | **261.7485** | **261.7485** | **0.0116** | **0.0000** | **262.0377** |

## 3.5 Paving - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 9.9300e-003 | 0.1001 | 0.1312 | 2.1000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 18.0248 | 18.0248 | 5.8300e-003 | 0.0000 | 18.1705 |
| Paving | 0.0275 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0374** | **0.1001** | **0.1312** | **2.1000e-004** | | **5.1100e-003** | **5.1100e-003** | | **4.7000e-003** | **4.7000e-003** | **0.0000** | **18.0248** | **18.0248** | **5.8300e-003** | **0.0000** | **18.1705** |

## 3.5 Paving - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.3000e-004 | 3.8000e-004 | 4.3500e-003 | 1.0000e-005 | 1.4800e-003 | 1.0000e-005 | 1.4900e-003 | 3.9000e-004 | 1.0000e-005 | 4.0000e-004 | 0.0000 | 1.2452 | 1.2452 | 3.0000e-005 | 0.0000 | 1.2460 |
| **Total** | **5.3000e-004** | **3.8000e-004** | **4.3500e-003** | **1.0000e-005** | **1.4800e-003** | **1.0000e-005** | **1.4900e-003** | **3.9000e-004** | **1.0000e-005** | **4.0000e-004** | **0.0000** | **1.2452** | **1.2452** | **3.0000e-005** | **0.0000** | **1.2460** |

### 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 | 9.9300e-003 | 0.1001 | 0.1312 | 2.1000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 18.0248 | 18.0248 | 5.8300e-003 | 0.0000 | 18.1705 |
| Paving | 0.0275 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0374** | **0.1001** | **0.1312** | **2.1000e-004** | | **5.1100e-003** | **5.1100e-003** | | **4.7000e-003** | **4.7000e-003** | **0.0000** | **18.0248** | **18.0248** | **5.8300e-003** | **0.0000** | **18.1705** |

## 3.5 Paving - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.3000e-004 | 3.8000e-004 | 4.3500e-003 | 1.0000e-005 | 1.4800e-003 | 1.0000e-005 | 1.4900e-003 | 3.9000e-004 | 1.0000e-005 | 4.0000e-004 | 0.0000 | 1.2452 | 1.2452 | 3.0000e-005 | 0.0000 | 1.2460 |
| **Total** | **5.3000e-004** | **3.8000e-004** | **4.3500e-003** | **1.0000e-005** | **1.4800e-003** | **1.0000e-005** | **1.4900e-003** | **3.9000e-004** | **1.0000e-005** | **4.0000e-004** | **0.0000** | **1.2452** | **1.2452** | **3.0000e-005** | **0.0000** | **1.2460** |

## 3.6 Architectural Coatings - 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 | 1.5249 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0114 | 0.0782 | 0.1007 | 1.6000e-004 | | 4.5400e-003 | 4.5400e-003 | | 4.5400e-003 | 4.5400e-003 | 0.0000 | 14.1706 | 14.1706 | 9.2000e-004 | 0.0000 | 14.1936 |
| **Total** | **1.5362** | **0.0782** | **0.1007** | **1.6000e-004** | | **4.5400e-003** | **4.5400e-003** | | **4.5400e-003** | **4.5400e-003** | **0.0000** | **14.1706** | **14.1706** | **9.2000e-004** | **0.0000** | **14.1936** |

## 3.6 Architectural Coatings - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0277 | 0.0198 | 0.2289 | 7.2000e-004 | 0.0779 | 5.7000e-004 | 0.0785 | 0.0207 | 5.3000e-004 | 0.0212 | 0.0000 | 65.5264 | 65.5264 | 1.6500e-003 | 0.0000 | 65.5677 |
| **Total** | **0.0277** | **0.0198** | **0.2289** | **7.2000e-004** | **0.0779** | **5.7000e-004** | **0.0785** | **0.0207** | **5.3000e-004** | **0.0212** | **0.0000** | **65.5264** | **65.5264** | **1.6500e-003** | **0.0000** | **65.5677** |

### 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 | 1.5249 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0114 | 0.0782 | 0.1007 | 1.6000e-004 | | 4.5400e-003 | 4.5400e-003 | | 4.5400e-003 | 4.5400e-003 | 0.0000 | 14.1705 | 14.1705 | 9.2000e-004 | 0.0000 | 14.1936 |
| **Total** | **1.5362** | **0.0782** | **0.1007** | **1.6000e-004** | | **4.5400e-003** | **4.5400e-003** | | **4.5400e-003** | **4.5400e-003** | **0.0000** | **14.1705** | **14.1705** | **9.2000e-004** | **0.0000** | **14.1936** |

### 3.6 Architectural Coatings - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0277 | 0.0198 | 0.2289 | 7.2000e-004 | 0.0779 | 5.7000e-004 | 0.0785 | 0.0207 | 5.3000e-004 | 0.0212 | 0.0000 | 65.5264 | 65.5264 | 1.6500e-003 | 0.0000 | 65.5677 |
| **Total** | **0.0277** | **0.0198** | **0.2289** | **7.2000e-004** | **0.0779** | **5.7000e-004** | **0.0785** | **0.0207** | **5.3000e-004** | **0.0212** | **0.0000** | **65.5264** | **65.5264** | **1.6500e-003** | **0.0000** | **65.5677** |

## 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 | 0.1150 | 0.2458 | 3.1992 | 0.0133 | 1.7549 | 0.0107 | 1.7656 | 0.4659 | 9.8300e-003 | 0.4757 | 0.0000 | 1,203.5080 | 1,203.5080 | 0.0211 | 0.0000 | 1,204.0349 |
| Unmitigated | 0.1150 | 0.2458 | 3.1992 | 0.0133 | 1.7549 | 0.0107 | 1.7656 | 0.4659 | 9.8300e-003 | 0.4757 | 0.0000 | 1,203.5080 | 1,203.5080 | 0.0211 | 0.0000 | 1,204.0349 |

## 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 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 572.95 | 572.95 | 572.95 | 4,706,914 | 4,706,914 |
| Total | 572.95 | 572.95 | 572.95 | 4,706,914 | 4,706,914 |

## 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 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 24.20 | 24.20 | 24.20 | 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 | 0.552712 | 0.042774 | 0.202769 | 0.116939 | 0.015078 | 0.005847 | 0.021692 | 0.031910 | 0.002110 | 0.001769 | 0.004822 | 0.000710 | 0.000869 |
| Parking Lot | 0.552712 | 0.042774 | 0.202769 | 0.116939 | 0.015078 | 0.005847 | 0.021692 | 0.031910 | 0.002110 | 0.001769 | 0.004822 | 0.000710 | 0.000869 |
| Unrefrigerated Warehouse-No Rail | 1.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 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 | 715.2869 | 715.2869 | 0.0156 | 3.4000e-003 | 716.6914 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 715.2869 | 715.2869 | 0.0156 | 3.4000e-003 | 716.6914 |
| NaturalGas Mitigated | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| NaturalGas Unmitigated | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |

## 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1.22429e+006 | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| **Total** | | **6.6000e-003** | **0.0600** | **0.0504** | **3.6000e-004** | | **4.5600e-003** | **4.5600e-003** | | **4.5600e-003** | **4.5600e-003** | **0.0000** | **65.3329** | **65.3329** | **1.2500e-003** | **1.2000e-003** | **65.7212** |

### 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1.22429e+006 | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| **Total** | | **6.6000e-003** | **0.0600** | **0.0504** | **3.6000e-004** | | **4.5600e-003** | **4.5600e-003** | | **4.5600e-003** | **4.5600e-003** | **0.0000** | **65.3329** | **65.3329** | **1.2500e-003** | **1.2000e-003** | **65.7212** |

## 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 |
| Parking Lot | 76230 | 36.3619 | 8.0000e-004 | 1.7000e-004 | 36.4333 |
| Unrefrigerated Warehouse-No Rail | 1.42332e+006 | 678.9250 | 0.0149 | 3.2300e-003 | 680.2581 |
| **Total** | | **715.2869** | **0.0157** | **3.4000e-003** | **716.6914** |

### 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 |
| Parking Lot | 76230 | 36.3619 | 8.0000e-004 | 1.7000e-004 | 36.4333 |
| Unrefrigerated Warehouse-No Rail | 1.42332e+006 | 678.9250 | 0.0149 | 3.2300e-003 | 680.2581 |
| **Total** | | **715.2869** | **0.0157** | **3.4000e-003** | **716.6914** |

# 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Unmitigated | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |

## 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 | 0.2923 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.2384 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.4000e-004 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| **Total** | **2.5314** | **7.0000e-005** | **7.9600e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0155** | **0.0155** | **4.0000e-005** | **0.0000** | **0.0165** |

**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 | 0.2923 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.2384 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.4000e-004 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| **Total** | **2.5314** | **7.0000e-005** | **7.9600e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0155** | **0.0155** | **4.0000e-005** | **0.0000** | **0.0165** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| Unmitigated | 728.3853 | 3.6508 | 0.0891 | 846.2185 |

## 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 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 111.574 / 0 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | | **728.3853** | **3.6508** | **0.0891** | **846.2185** |

### 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 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 111.574 / 0 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | | **728.3853** | **3.6508** | **0.0891** | **846.2185** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| Unmitigated | 115.0776 | 6.8009 | 0.0000 | 285.0999 |

## 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 566.91 | 115.0776 | 6.8009 | 0.0000 | 285.0999 |
| **Total** | | **115.0776** | **6.8009** | **0.0000** | **285.0999** |

### 8.2 Waste by Land Use

**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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 425.183 | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| **Total** | | **86.3082** | **5.1007** | **0.0000** | **213.8249** |

## 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

# 9309 Sycamore Hills Distribution Center - Trucks

**South Coast Air Basin, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric | Lot Acreage | Floor Surface Area | Population |
|---|---|---|---|---|---|
| Unrefrigerated Warehouse-No Rail | 603.10 | 1000sqft | 16.00 | 603,100.00 | 0 |
| Other Asphalt Surfaces | 16.00 | Acre | 16.00 | 696,960.00 | 0 |
| Parking Lot | 5.00 | Acre | 5.00 | 217,800.00 | 0 |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Precipitation Freq (Days)** | 31 |
| **Climate Zone** | 10 | | | **Operational Year** | 2023 |
| **Utility Company** | Riverside Public Utilities | | | | |
| **CO2 Intensity (lb/MWhr)** | 1051.61 | **CH4 Intensity (lb/MWhr)** | 0.023 | **N2O Intensity (lb/MWhr)** | 0.005 |

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

9309 Sycamore Hills Distribution Center - Trucks - South Coast Air Basin, Annual

Project Characteristics - RPS - 33% goal by 2020, 18.4% accounted for in CalEEMod

Land Use - 37 acre site
603,100 sf

Construction Phase - Grading/Prliminary Road Construction - 3 months
Building Permit/Building Construction - 12 months

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Trips and VMT - CalEEMod applies same worker/vendor trip rates to parking/asphalt surfaces as it does to office/industrial building construction, resulting in overestimate of actual trips. Default trips adjusted to reflect builing construction of buildings only

Grading -

Architectural Coating - SCAQMD Rule 1113 - Building Envelope and Non-Flat Coating limit = 50 g/L

Vehicle Trips - 847 ADT
Trucks - 274 (0.45 trips/ksf)
38.7 mile trip length

Area Coating -

Energy Use -

Water And Wastewater - CalGreen requires 20% reduction in indoor water use (111,573,500 gallons)

Construction Off-road Equipment Mitigation - 61% fugitive dust reduction associated with watering

Waste Mitigation -

Fleet Mix - Trucks only, mix per TIA

| Table Name | Column Name | Default Value | New Value |
|---|---|---|---|
| tblArchitecturalCoating | EF_Nonresidential_Exterior | 100.00 | 50.00 |
| tblArchitecturalCoating | EF_Nonresidential_Interior | 100.00 | 50.00 |
| tblConstDustMitigation | WaterExposedAreaPM10PercentReduction | 55 | 61 |
| tblConstDustMitigation | WaterExposedAreaPM25PercentReduction | 55 | 61 |
| tblConstructionPhase | NumDays | 55.00 | 111.00 |
| tblConstructionPhase | NumDays | 740.00 | 243.00 |

9309 Sycamore Hills Distribution Center - Trucks - South Coast Air Basin, Annual

| | | | |
|---|---|---|---|
| tblConstructionPhase | NumDays | 75.00 | 47.00 |
| tblConstructionPhase | NumDays | 55.00 | 18.00 |
| tblConstructionPhase | NumDays | 30.00 | 18.00 |
| tblConstructionPhase | PhaseEndDate | 11/27/2024 | 6/30/2022 |
| tblConstructionPhase | PhaseEndDate | 6/26/2024 | 6/6/2022 |
| tblConstructionPhase | PhaseEndDate | 8/25/2021 | 6/30/2021 |
| tblConstructionPhase | PhaseEndDate | 9/11/2024 | 6/30/2022 |
| tblConstructionPhase | PhaseEndDate | 5/12/2021 | 4/26/2021 |
| tblConstructionPhase | PhaseStartDate | 9/12/2024 | 1/27/2022 |
| tblConstructionPhase | PhaseStartDate | 8/26/2021 | 7/1/2021 |
| tblConstructionPhase | PhaseStartDate | 5/13/2021 | 4/27/2021 |
| tblConstructionPhase | PhaseStartDate | 6/27/2024 | 6/7/2022 |
| tblFleetMix | HHD | 0.03 | 0.37 |
| tblFleetMix | LDA | 0.55 | 0.00 |
| tblFleetMix | LDT1 | 0.04 | 0.00 |
| tblFleetMix | LDT2 | 0.20 | 0.00 |
| tblFleetMix | LHD1 | 0.02 | 0.17 |
| tblFleetMix | LHD2 | 5.8470e-003 | 0.21 |
| tblFleetMix | MCY | 4.8220e-003 | 0.00 |
| tblFleetMix | MDV | 0.12 | 0.00 |
| tblFleetMix | MH | 8.6900e-004 | 0.00 |
| tblFleetMix | MHD | 0.02 | 0.25 |
| tblFleetMix | OBUS | 2.1100e-003 | 0.00 |
| tblFleetMix | SBUS | 7.1000e-004 | 0.00 |
| tblFleetMix | UBUS | 1.7690e-003 | 0.00 |
| tblLandUse | LotAcreage | 13.85 | 16.00 |
| tblProjectCharacteristics | CH4IntensityFactor | 0.029 | 0.023 |

| | | | |
|---|---|---|---|
| tblProjectCharacteristics | CO2IntensityFactor | 1325.65 | 1051.61 |
| tblProjectCharacteristics | N2OIntensityFactor | 0.006 | 0.005 |
| tblTripsAndVMT | VendorTripNumber | 249.00 | 99.00 |
| tblTripsAndVMT | WorkerTripNumber | 638.00 | 253.00 |
| tblVehicleTrips | CC_TL | 8.40 | 38.70 |
| tblVehicleTrips | CNW_TL | 6.90 | 38.70 |
| tblVehicleTrips | CW_TL | 16.60 | 38.70 |
| tblVehicleTrips | DV_TP | 5.00 | 0.00 |
| tblVehicleTrips | PB_TP | 3.00 | 0.00 |
| tblVehicleTrips | PR_TP | 92.00 | 100.00 |
| tblVehicleTrips | ST_TR | 1.68 | 0.45 |
| tblVehicleTrips | SU_TR | 1.68 | 0.45 |
| tblVehicleTrips | WD_TR | 1.68 | 0.45 |
| tblWater | IndoorWaterUseRate | 139,466,875.00 | 111,573,500.00 |

## 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 | 0.3498 | 3.2944 | 2.7754 | 7.0400e-003 | 0.5977 | 0.1311 | 0.7288 | 0.2363 | 0.1219 | 0.3582 | 0.0000 | 635.4736 | 635.4736 | 0.1027 | 0.0000 | 638.0416 |
| 2022 | 1.7663 | 1.6114 | 1.9537 | 5.4000e-003 | 0.2681 | 0.0572 | 0.3253 | 0.0720 | 0.0540 | 0.1260 | 0.0000 | 489.3229 | 489.3229 | 0.0508 | 0.0000 | 490.5933 |
| **Maximum** | **1.7663** | **3.2944** | **2.7754** | **7.0400e-003** | **0.5977** | **0.1311** | **0.7288** | **0.2363** | **0.1219** | **0.3582** | **0.0000** | **635.4736** | **635.4736** | **0.1027** | **0.0000** | **638.0416** |

### 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 | 0.3498 | 3.2944 | 2.7754 | 7.0400e-003 | 0.3742 | 0.1311 | 0.5053 | 0.1302 | 0.1219 | 0.2521 | 0.0000 | 635.4732 | 635.4732 | 0.1027 | 0.0000 | 638.0413 |
| 2022 | 1.7663 | 1.6114 | 1.9537 | 5.4000e-003 | 0.2681 | 0.0572 | 0.3253 | 0.0720 | 0.0540 | 0.1260 | 0.0000 | 489.3228 | 489.3228 | 0.0508 | 0.0000 | 490.5931 |
| **Maximum** | **1.7663** | **3.2944** | **2.7754** | **7.0400e-003** | **0.3742** | **0.1311** | **0.5053** | **0.1302** | **0.1219** | **0.2521** | **0.0000** | **635.4732** | **635.4732** | **0.1027** | **0.0000** | **638.0413** |

| | ROG | NOx | 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** | **25.82** | **0.00** | **21.20** | **34.41** | **0.00** | **21.91** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

9309 Sycamore Hills Distribution Center - Trucks - South Coast Air Basin, Annual

| Quarter | Start Date | End Date | Maximum Unmitigated ROG + NOX (tons/quarter) | Maximum Mitigated ROG + NOX (tons/quarter) |
|---|---|---|---|---|
| 1 | 4-1-2021 | 6-30-2021 | 1.5909 | 1.5909 |
| 2 | 7-1-2021 | 9-30-2021 | 1.0134 | 1.0134 |
| 3 | 10-1-2021 | 12-31-2021 | 1.0189 | 1.0189 |
| 4 | 1-1-2022 | 3-31-2022 | 1.5970 | 1.5970 |
| 5 | 4-1-2022 | 6-30-2022 | 1.7787 | 1.7787 |
| | | Highest | 1.7787 | 1.7787 |

## 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Energy | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 780.6198 | 780.6198 | 0.0169 | 4.6000e-003 | 782.4126 |
| Mobile | 0.2951 | 6.7559 | 3.0128 | 0.0447 | 1.6875 | 0.0277 | 1.7152 | 0.4817 | 0.0265 | 0.5082 | 0.0000 | 4,316.1997 | 4,316.1997 | 0.1678 | 0.0000 | 4,320.3946 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 115.0776 | 0.0000 | 115.0776 | 6.8009 | 0.0000 | 285.0999 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 35.3971 | 692.9882 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | **2.8331** | **6.8160** | **3.0712** | **0.0451** | **1.6875** | **0.0323** | **1.7198** | **0.4817** | **0.0311** | **0.5128** | **150.4747** | **5,789.8232** | **5,940.2979** | **10.6364** | **0.0937** | **6,234.1421** |

## 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Energy | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 780.6198 | 780.6198 | 0.0169 | 4.6000e-003 | 782.4126 |
| Mobile | 0.2951 | 6.7559 | 3.0128 | 0.0447 | 1.6875 | 0.0277 | 1.7152 | 0.4817 | 0.0265 | 0.5082 | 0.0000 | 4,316.1997 | 4,316.1997 | 0.1678 | 0.0000 | 4,320.3946 |
| Waste | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 86.3082 | 0.0000 | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| Water | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 35.3971 | 692.9882 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | **2.8331** | **6.8160** | **3.0712** | **0.0451** | **1.6875** | **0.0323** | **1.7198** | **0.4817** | **0.0311** | **0.5128** | **121.7053** | **5,789.8232** | **5,911.5285** | **8.9362** | **0.0937** | **6,162.8672** |

| | ROG | NOx | 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** | **19.12** | **0.00** | **0.48** | **15.98** | **0.00** | **1.14** |

## 3.0 Construction Detail

**Construction Phase**

9309 Sycamore Hills Distribution Center - Trucks - South Coast Air Basin, Annual

| Phase Number | Phase Name | Phase Type | Start Date | End Date | Num Days Week | Num Days | Phase Description |
|---|---|---|---|---|---|---|---|
| 1 | Site Preparation | Site Preparation | 4/1/2021 | 4/26/2021 | 5 | 18 | |
| 2 | Grading | Grading | 4/27/2021 | 6/30/2021 | 5 | 47 | |
| 3 | Building Construction | Building Construction | 7/1/2021 | 6/6/2022 | 5 | 243 | |
| 4 | Paving | Paving | 6/7/2022 | 6/30/2022 | 5 | 18 | |
| 5 | Architectural Coatings | Architectural Coating | 1/27/2022 | 6/30/2022 | 5 | 111 | |

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

**Acres of Grading (Grading Phase): 117.5**

**Acres of Paving: 21**

**Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 904,650; Non-Residential Outdoor: 301,550; Striped Parking Area: 54,886 (Architectural Coating – sqft)**

**OffRoad Equipment**

9309 Sycamore Hills Distribution Center - Trucks - South Coast Air Basin, Annual

| Phase Name | Offroad Equipment Type | Amount | Usage Hours | Horse Power | Load Factor |
|---|---|---|---|---|---|
| Site Preparation | Rubber Tired Dozers | 3 | 8.00 | 247 | 0.40 |
| Site Preparation | Tractors/Loaders/Backhoes | 4 | 8.00 | 97 | 0.37 |
| Grading | Excavators | 2 | 8.00 | 158 | 0.38 |
| Grading | Graders | 1 | 8.00 | 187 | 0.41 |
| Grading | Rubber Tired Dozers | 1 | 8.00 | 247 | 0.40 |
| Grading | Scrapers | 2 | 8.00 | 367 | 0.48 |
| Grading | Tractors/Loaders/Backhoes | 2 | 8.00 | 97 | 0.37 |
| Building Construction | Cranes | 1 | 7.00 | 231 | 0.29 |
| Building Construction | Forklifts | 3 | 8.00 | 89 | 0.20 |
| Building Construction | Generator Sets | 1 | 8.00 | 84 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | 3 | 7.00 | 97 | 0.37 |
| Building Construction | Welders | 1 | 8.00 | 46 | 0.45 |
| Architectural Coatings | Air Compressors | 1 | 6.00 | 78 | 0.48 |
| Paving | Pavers | 2 | 8.00 | 130 | 0.42 |
| Paving | Paving Equipment | 2 | 8.00 | 132 | 0.36 |
| Paving | Rollers | 2 | 8.00 | 80 | 0.38 |

**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 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Grading | 8 | 20.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Building Construction | 9 | 253.00 | 99.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Architectural Coatings | 1 | 128.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |
| Paving | 6 | 15.00 | 0.00 | 0.00 | 14.70 | 6.90 | 20.00 | LD_Mix | HDT_Mix | HHDT |

## 3.1 Mitigation Measures Construction

Water Exposed Area

## 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 | | | | | 0.1626 | 0.0000 | 0.1626 | 0.0894 | 0.0000 | 0.0894 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0350 | 0.3645 | 0.1904 | 3.4000e-004 | | 0.0184 | 0.0184 | | 0.0169 | 0.0169 | 0.0000 | 30.0922 | 30.0922 | 9.7300e-003 | 0.0000 | 30.3355 |
| **Total** | **0.0350** | **0.3645** | **0.1904** | **3.4000e-004** | **0.1626** | **0.0184** | **0.1810** | **0.0894** | **0.0169** | **0.1063** | **0.0000** | **30.0922** | **30.0922** | **9.7300e-003** | **0.0000** | **30.3355** |

## 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 | 6.7000e-004 | 5.0000e-004 | 5.6500e-003 | 2.0000e-005 | 1.7800e-003 | 1.0000e-005 | 1.7900e-003 | 4.7000e-004 | 1.0000e-005 | 4.8000e-004 | 0.0000 | 1.5498 | 1.5498 | 4.0000e-005 | 0.0000 | 1.5508 |
| **Total** | **6.7000e-004** | **5.0000e-004** | **5.6500e-003** | **2.0000e-005** | **1.7800e-003** | **1.0000e-005** | **1.7900e-003** | **4.7000e-004** | **1.0000e-005** | **4.8000e-004** | **0.0000** | **1.5498** | **1.5498** | **4.0000e-005** | **0.0000** | **1.5508** |

### 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 | | | | | 0.0634 | 0.0000 | 0.0634 | 0.0349 | 0.0000 | 0.0349 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0350 | 0.3645 | 0.1904 | 3.4000e-004 | | 0.0184 | 0.0184 | | 0.0169 | 0.0169 | 0.0000 | 30.0921 | 30.0921 | 9.7300e-003 | 0.0000 | 30.3354 |
| **Total** | **0.0350** | **0.3645** | **0.1904** | **3.4000e-004** | **0.0634** | **0.0184** | **0.0818** | **0.0349** | **0.0169** | **0.0518** | **0.0000** | **30.0921** | **30.0921** | **9.7300e-003** | **0.0000** | **30.3354** |

## 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 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 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 | 6.7000e-004 | 5.0000e-004 | 5.6500e-003 | 2.0000e-005 | 1.7800e-003 | 1.0000e-005 | 1.7900e-003 | 4.7000e-004 | 1.0000e-005 | 4.8000e-004 | 0.0000 | 1.5498 | 1.5498 | 4.0000e-005 | 0.0000 | 1.5508 |
| **Total** | **6.7000e-004** | **5.0000e-004** | **5.6500e-003** | **2.0000e-005** | **1.7800e-003** | **1.0000e-005** | **1.7900e-003** | **4.7000e-004** | **1.0000e-005** | **4.8000e-004** | **0.0000** | **1.5498** | **1.5498** | **4.0000e-005** | **0.0000** | **1.5508** |

## 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 | | | | | 0.2038 | 0.0000 | 0.2038 | 0.0845 | 0.0000 | 0.0845 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0985 | 1.0904 | 0.7256 | 1.4600e-003 | | 0.0467 | 0.0467 | | 0.0429 | 0.0429 | 0.0000 | 128.0632 | 128.0632 | 0.0414 | 0.0000 | 129.0987 |
| **Total** | **0.0985** | **1.0904** | **0.7256** | **1.4600e-003** | **0.2038** | **0.0467** | **0.2505** | **0.0845** | **0.0429** | **0.1274** | **0.0000** | **128.0632** | **128.0632** | **0.0414** | **0.0000** | **129.0987** |

## 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 | 1.9500e-003 | 1.4500e-003 | 0.0164 | 5.0000e-005 | 5.1600e-003 | 4.0000e-005 | 5.2000e-003 | 1.3700e-003 | 4.0000e-005 | 1.4100e-003 | 0.0000 | 4.4963 | 4.4963 | 1.2000e-004 | 0.0000 | 4.4993 |
| **Total** | **1.9500e-003** | **1.4500e-003** | **0.0164** | **5.0000e-005** | **5.1600e-003** | **4.0000e-005** | **5.2000e-003** | **1.3700e-003** | **4.0000e-005** | **1.4100e-003** | **0.0000** | **4.4963** | **4.4963** | **1.2000e-004** | **0.0000** | **4.4993** |

### 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 | | | | | 0.0795 | 0.0000 | 0.0795 | 0.0330 | 0.0000 | 0.0330 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0985 | 1.0904 | 0.7256 | 1.4600e-003 | | 0.0467 | 0.0467 | | 0.0429 | 0.0429 | 0.0000 | 128.0631 | 128.0631 | 0.0414 | 0.0000 | 129.0985 |
| **Total** | **0.0985** | **1.0904** | **0.7256** | **1.4600e-003** | **0.0795** | **0.0467** | **0.1262** | **0.0330** | **0.0429** | **0.0759** | **0.0000** | **128.0631** | **128.0631** | **0.0414** | **0.0000** | **129.0985** |

## 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 | 1.9500e-003 | 1.4500e-003 | 0.0164 | 5.0000e-005 | 5.1600e-003 | 4.0000e-005 | 5.2000e-003 | 1.3700e-003 | 4.0000e-005 | 1.4100e-003 | 0.0000 | 4.4963 | 4.4963 | 1.2000e-004 | 0.0000 | 4.4993 |
| **Total** | **1.9500e-003** | **1.4500e-003** | **0.0164** | **5.0000e-005** | **5.1600e-003** | **4.0000e-005** | **5.2000e-003** | **1.3700e-003** | **4.0000e-005** | **1.4100e-003** | **0.0000** | **4.4963** | **4.4963** | **1.2000e-004** | **0.0000** | **4.4993** |

## 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 | 0.1255 | 1.1505 | 1.0940 | 1.7800e-003 | | 0.0633 | 0.0633 | | 0.0595 | 0.0595 | 0.0000 | 152.8806 | 152.8806 | 0.0369 | 0.0000 | 153.8027 |
| **Total** | **0.1255** | **1.1505** | **1.0940** | **1.7800e-003** | | **0.0633** | **0.0633** | | **0.0595** | **0.0595** | **0.0000** | **152.8806** | **152.8806** | **0.0369** | **0.0000** | **153.8027** |

## 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 | 0.0188 | 0.6356 | 0.1606 | 1.6300e-003 | 0.0412 | 1.2900e-003 | 0.0425 | 0.0119 | 1.2400e-003 | 0.0131 | 0.0000 | 158.6498 | 158.6498 | 0.0102 | 0.0000 | 158.9055 |
| Worker | 0.0694 | 0.0515 | 0.5828 | 1.7700e-003 | 0.1832 | 1.3800e-003 | 0.1846 | 0.0487 | 1.2700e-003 | 0.0499 | 0.0000 | 159.7418 | 159.7418 | 4.3000e-003 | 0.0000 | 159.8492 |
| **Total** | **0.0882** | **0.6871** | **0.7434** | **3.4000e-003** | **0.2244** | **2.6700e-003** | **0.2271** | **0.0605** | **2.5100e-003** | **0.0631** | **0.0000** | **318.3916** | **318.3916** | **0.0145** | **0.0000** | **318.7547** |

### 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 | 0.1255 | 1.1505 | 1.0940 | 1.7800e-003 | | 0.0633 | 0.0633 | | 0.0595 | 0.0595 | 0.0000 | 152.8804 | 152.8804 | 0.0369 | 0.0000 | 153.8025 |
| **Total** | **0.1255** | **1.1505** | **1.0940** | **1.7800e-003** | | **0.0633** | **0.0633** | | **0.0595** | **0.0595** | **0.0000** | **152.8804** | **152.8804** | **0.0369** | **0.0000** | **153.8025** |

## 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 | 0.0188 | 0.6356 | 0.1606 | 1.6300e-003 | 0.0412 | 1.2900e-003 | 0.0425 | 0.0119 | 1.2400e-003 | 0.0131 | 0.0000 | 158.6498 | 158.6498 | 0.0102 | 0.0000 | 158.9055 |
| Worker | 0.0694 | 0.0515 | 0.5828 | 1.7700e-003 | 0.1832 | 1.3800e-003 | 0.1846 | 0.0487 | 1.2700e-003 | 0.0499 | 0.0000 | 159.7418 | 159.7418 | 4.3000e-003 | 0.0000 | 159.8492 |
| **Total** | **0.0882** | **0.6871** | **0.7434** | **3.4000e-003** | **0.2244** | **2.6700e-003** | **0.2271** | **0.0605** | **2.5100e-003** | **0.0631** | **0.0000** | **318.3916** | **318.3916** | **0.0145** | **0.0000** | **318.7547** |

## 3.4 Building Construction - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 0.0947 | 0.8667 | 0.9082 | 1.4900e-003 | | 0.0449 | 0.0449 | | 0.0422 | 0.0422 | 0.0000 | 128.6075 | 128.6075 | 0.0308 | 0.0000 | 129.3778 |
| **Total** | **0.0947** | **0.8667** | **0.9082** | **1.4900e-003** | | **0.0449** | **0.0449** | | **0.0422** | **0.0422** | **0.0000** | **128.6075** | **128.6075** | **0.0308** | **0.0000** | **129.3778** |

## 3.4 Building Construction - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0148 | 0.5071 | 0.1279 | 1.3600e-003 | 0.0346 | 9.5000e-004 | 0.0356 | 9.9900e-003 | 9.1000e-004 | 0.0109 | 0.0000 | 132.2316 | 132.2316 | 8.3000e-003 | 0.0000 | 132.4391 |
| Worker | 0.0548 | 0.0391 | 0.4525 | 1.4300e-003 | 0.1541 | 1.1300e-003 | 0.1552 | 0.0409 | 1.0400e-003 | 0.0420 | 0.0000 | 129.5169 | 129.5169 | 3.2700e-003 | 0.0000 | 129.5986 |
| **Total** | **0.0696** | **0.5463** | **0.5804** | **2.7900e-003** | **0.1887** | **2.0800e-003** | **0.1908** | **0.0509** | **1.9500e-003** | **0.0529** | **0.0000** | **261.7485** | **261.7485** | **0.0116** | **0.0000** | **262.0377** |

### 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 | 0.0947 | 0.8667 | 0.9082 | 1.4900e-003 | | 0.0449 | 0.0449 | | 0.0422 | 0.0422 | 0.0000 | 128.6074 | 128.6074 | 0.0308 | 0.0000 | 129.3776 |
| **Total** | **0.0947** | **0.8667** | **0.9082** | **1.4900e-003** | | **0.0449** | **0.0449** | | **0.0422** | **0.0422** | **0.0000** | **128.6074** | **128.6074** | **0.0308** | **0.0000** | **129.3776** |

## 3.4 Building Construction - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0148 | 0.5071 | 0.1279 | 1.3600e-003 | 0.0346 | 9.5000e-004 | 0.0356 | 9.9900e-003 | 9.1000e-004 | 0.0109 | 0.0000 | 132.2316 | 132.2316 | 8.3000e-003 | 0.0000 | 132.4391 |
| Worker | 0.0548 | 0.0391 | 0.4525 | 1.4300e-003 | 0.1541 | 1.1300e-003 | 0.1552 | 0.0409 | 1.0400e-003 | 0.0420 | 0.0000 | 129.5169 | 129.5169 | 3.2700e-003 | 0.0000 | 129.5986 |
| **Total** | **0.0696** | **0.5463** | **0.5804** | **2.7900e-003** | **0.1887** | **2.0800e-003** | **0.1908** | **0.0509** | **1.9500e-003** | **0.0529** | **0.0000** | **261.7485** | **261.7485** | **0.0116** | **0.0000** | **262.0377** |

## 3.5 Paving - 2022

**Unmitigated Construction On-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Off-Road | 9.9300e-003 | 0.1001 | 0.1312 | 2.1000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 18.0248 | 18.0248 | 5.8300e-003 | 0.0000 | 18.1705 |
| Paving | 0.0275 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0374** | **0.1001** | **0.1312** | **2.1000e-004** | | **5.1100e-003** | **5.1100e-003** | | **4.7000e-003** | **4.7000e-003** | **0.0000** | **18.0248** | **18.0248** | **5.8300e-003** | **0.0000** | **18.1705** |

## 3.5 Paving - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.3000e-004 | 3.8000e-004 | 4.3500e-003 | 1.0000e-005 | 1.4800e-003 | 1.0000e-005 | 1.4900e-003 | 3.9000e-004 | 1.0000e-005 | 4.0000e-004 | 0.0000 | 1.2452 | 1.2452 | 3.0000e-005 | 0.0000 | 1.2460 |
| **Total** | **5.3000e-004** | **3.8000e-004** | **4.3500e-003** | **1.0000e-005** | **1.4800e-003** | **1.0000e-005** | **1.4900e-003** | **3.9000e-004** | **1.0000e-005** | **4.0000e-004** | **0.0000** | **1.2452** | **1.2452** | **3.0000e-005** | **0.0000** | **1.2460** |

### 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 | 9.9300e-003 | 0.1001 | 0.1312 | 2.1000e-004 | | 5.1100e-003 | 5.1100e-003 | | 4.7000e-003 | 4.7000e-003 | 0.0000 | 18.0248 | 18.0248 | 5.8300e-003 | 0.0000 | 18.1705 |
| Paving | 0.0275 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| **Total** | **0.0374** | **0.1001** | **0.1312** | **2.1000e-004** | | **5.1100e-003** | **5.1100e-003** | | **4.7000e-003** | **4.7000e-003** | **0.0000** | **18.0248** | **18.0248** | **5.8300e-003** | **0.0000** | **18.1705** |

## 3.5 Paving - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 5.3000e-004 | 3.8000e-004 | 4.3500e-003 | 1.0000e-005 | 1.4800e-003 | 1.0000e-005 | 1.4900e-003 | 3.9000e-004 | 1.0000e-005 | 4.0000e-004 | 0.0000 | 1.2452 | 1.2452 | 3.0000e-005 | 0.0000 | 1.2460 |
| **Total** | **5.3000e-004** | **3.8000e-004** | **4.3500e-003** | **1.0000e-005** | **1.4800e-003** | **1.0000e-005** | **1.4900e-003** | **3.9000e-004** | **1.0000e-005** | **4.0000e-004** | **0.0000** | **1.2452** | **1.2452** | **3.0000e-005** | **0.0000** | **1.2460** |

## 3.6 Architectural Coatings - 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 | 1.5249 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0114 | 0.0782 | 0.1007 | 1.6000e-004 | | 4.5400e-003 | 4.5400e-003 | | 4.5400e-003 | 4.5400e-003 | 0.0000 | 14.1706 | 14.1706 | 9.2000e-004 | 0.0000 | 14.1936 |
| **Total** | **1.5362** | **0.0782** | **0.1007** | **1.6000e-004** | | **4.5400e-003** | **4.5400e-003** | | **4.5400e-003** | **4.5400e-003** | **0.0000** | **14.1706** | **14.1706** | **9.2000e-004** | **0.0000** | **14.1936** |

## 3.6 Architectural Coatings - 2022

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0277 | 0.0198 | 0.2289 | 7.2000e-004 | 0.0779 | 5.7000e-004 | 0.0785 | 0.0207 | 5.3000e-004 | 0.0212 | 0.0000 | 65.5264 | 65.5264 | 1.6500e-003 | 0.0000 | 65.5677 |
| **Total** | **0.0277** | **0.0198** | **0.2289** | **7.2000e-004** | **0.0779** | **5.7000e-004** | **0.0785** | **0.0207** | **5.3000e-004** | **0.0212** | **0.0000** | **65.5264** | **65.5264** | **1.6500e-003** | **0.0000** | **65.5677** |

### 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 | 1.5249 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Off-Road | 0.0114 | 0.0782 | 0.1007 | 1.6000e-004 | | 4.5400e-003 | 4.5400e-003 | | 4.5400e-003 | 4.5400e-003 | 0.0000 | 14.1705 | 14.1705 | 9.2000e-004 | 0.0000 | 14.1936 |
| **Total** | **1.5362** | **0.0782** | **0.1007** | **1.6000e-004** | | **4.5400e-003** | **4.5400e-003** | | **4.5400e-003** | **4.5400e-003** | **0.0000** | **14.1705** | **14.1705** | **9.2000e-004** | **0.0000** | **14.1936** |

### 3.6 Architectural Coatings - 2022

**Mitigated Construction Off-Site**

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Vendor | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Worker | 0.0277 | 0.0198 | 0.2289 | 7.2000e-004 | 0.0779 | 5.7000e-004 | 0.0785 | 0.0207 | 5.3000e-004 | 0.0212 | 0.0000 | 65.5264 | 65.5264 | 1.6500e-003 | 0.0000 | 65.5677 |
| **Total** | **0.0277** | **0.0198** | **0.2289** | **7.2000e-004** | **0.0779** | **5.7000e-004** | **0.0785** | **0.0207** | **5.3000e-004** | **0.0212** | **0.0000** | **65.5264** | **65.5264** | **1.6500e-003** | **0.0000** | **65.5677** |

## 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 | 0.2951 | 6.7559 | 3.0128 | 0.0447 | 1.6875 | 0.0277 | 1.7152 | 0.4817 | 0.0265 | 0.5082 | 0.0000 | 4,316.1997 | 4,316.1997 | 0.1678 | 0.0000 | 4,320.3946 |
| Unmitigated | 0.2951 | 6.7559 | 3.0128 | 0.0447 | 1.6875 | 0.0277 | 1.7152 | 0.4817 | 0.0265 | 0.5082 | 0.0000 | 4,316.1997 | 4,316.1997 | 0.1678 | 0.0000 | 4,320.3946 |

## 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 | | |
| Parking Lot | 0.00 | 0.00 | 0.00 | | |
| Unrefrigerated Warehouse-No Rail | 271.40 | 271.40 | 271.40 | 3,823,087 | 3,823,087 |
| Total | 271.40 | 271.40 | 271.40 | 3,823,087 | 3,823,087 |

## 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 |
| Parking Lot | 16.60 | 8.40 | 6.90 | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 |
| Unrefrigerated Warehouse-No | 38.70 | 38.70 | 38.70 | 59.00 | 0.00 | 41.00 | 100 | 0 | 0 |

## 4.4 Fleet Mix

| Land Use | LDA | LDT1 | LDT2 | MDV | LHD1 | LHD2 | MHD | HHD | OBUS | UBUS | MCY | SBUS | MH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Other Asphalt Surfaces | 0.552712 | 0.042774 | 0.202769 | 0.116939 | 0.015078 | 0.005847 | 0.021692 | 0.031910 | 0.002110 | 0.001769 | 0.004822 | 0.000710 | 0.000869 |
| Parking Lot | 0.552712 | 0.042774 | 0.202769 | 0.116939 | 0.015078 | 0.005847 | 0.021692 | 0.031910 | 0.002110 | 0.001769 | 0.004822 | 0.000710 | 0.000869 |
| Unrefrigerated Warehouse-No Rail | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.167900 | 0.208000 | 0.254600 | 0.369500 | 0.000000 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |

## 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 | 715.2869 | 715.2869 | 0.0156 | 3.4000e-003 | 716.6914 |
| Electricity Unmitigated | | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 715.2869 | 715.2869 | 0.0156 | 3.4000e-003 | 716.6914 |
| NaturalGas Mitigated | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| NaturalGas Unmitigated | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |

## 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1.22429e+006 | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| **Total** | | **6.6000e-003** | **0.0600** | **0.0504** | **3.6000e-004** | | **4.5600e-003** | **4.5600e-003** | | **4.5600e-003** | **4.5600e-003** | **0.0000** | **65.3329** | **65.3329** | **1.2500e-003** | **1.2000e-003** | **65.7212** |

### 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 1.22429e+006 | 6.6000e-003 | 0.0600 | 0.0504 | 3.6000e-004 | | 4.5600e-003 | 4.5600e-003 | | 4.5600e-003 | 4.5600e-003 | 0.0000 | 65.3329 | 65.3329 | 1.2500e-003 | 1.2000e-003 | 65.7212 |
| **Total** | | **6.6000e-003** | **0.0600** | **0.0504** | **3.6000e-004** | | **4.5600e-003** | **4.5600e-003** | | **4.5600e-003** | **4.5600e-003** | **0.0000** | **65.3329** | **65.3329** | **1.2500e-003** | **1.2000e-003** | **65.7212** |

## 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 |
| Parking Lot | 76230 | 36.3619 | 8.0000e-004 | 1.7000e-004 | 36.4333 |
| Unrefrigerated Warehouse-No Rail | 1.42332e+006 | 678.9250 | 0.0149 | 3.2300e-003 | 680.2581 |
| **Total** | | **715.2869** | **0.0157** | **3.4000e-003** | **716.6914** |

### 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 |
| Parking Lot | 76230 | 36.3619 | 8.0000e-004 | 1.7000e-004 | 36.4333 |
| Unrefrigerated Warehouse-No Rail | 1.42332e+006 | 678.9250 | 0.0149 | 3.2300e-003 | 680.2581 |
| **Total** | | **715.2869** | **0.0157** | **3.4000e-003** | **716.6914** |

# 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 | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| Unmitigated | 2.5314 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |

## 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 | 0.2923 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.2384 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.4000e-004 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| **Total** | **2.5314** | **7.0000e-005** | **7.9600e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0155** | **0.0155** | **4.0000e-005** | **0.0000** | **0.0165** |

**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 | 0.2923 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Consumer Products | 2.2384 | | | | | 0.0000 | 0.0000 | | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Landscaping | 7.4000e-004 | 7.0000e-005 | 7.9600e-003 | 0.0000 | | 3.0000e-005 | 3.0000e-005 | | 3.0000e-005 | 3.0000e-005 | 0.0000 | 0.0155 | 0.0155 | 4.0000e-005 | 0.0000 | 0.0165 |
| **Total** | **2.5314** | **7.0000e-005** | **7.9600e-003** | **0.0000** | | **3.0000e-005** | **3.0000e-005** | | **3.0000e-005** | **3.0000e-005** | **0.0000** | **0.0155** | **0.0155** | **4.0000e-005** | **0.0000** | **0.0165** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| Category | MT/yr | | | |
| Mitigated | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| Unmitigated | 728.3853 | 3.6508 | 0.0891 | 846.2185 |

## 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 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 111.574 / 0 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | | **728.3853** | **3.6508** | **0.0891** | **846.2185** |

### 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 |
| Parking Lot | 0 / 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 111.574 / 0 | 728.3853 | 3.6508 | 0.0891 | 846.2185 |
| **Total** | | **728.3853** | **3.6508** | **0.0891** | **846.2185** |

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

**Category/Year**

| | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|
| | MT/yr | | | |
| Mitigated | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| Unmitigated | 115.0776 | 6.8009 | 0.0000 | 285.0999 |

## 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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 566.91 | 115.0776 | 6.8009 | 0.0000 | 285.0999 |
| **Total** | | **115.0776** | **6.8009** | **0.0000** | **285.0999** |

## 8.2 Waste by Land Use

**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 |
| Parking Lot | 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| Unrefrigerated Warehouse-No Rail | 425.183 | 86.3082 | 5.1007 | 0.0000 | 213.8249 |
| **Total** | | **86.3082** | **5.1007** | **0.0000** | **213.8249** |

## 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