

AIR QUALITY ASSESSMENT

**Highland Mixed Use Development
City of Highland, CA**

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May 13, 2021

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EXECUTIVE SUMMARY

This air quality impact study has been completed to determine the air quality impacts associated with the development of the proposed Highland Tractor Supply Commercial Development. The proposed Project site is located within the City of Highland. The Project proposes to construct 38,940 square foot (SF) Tractor Supply Site store, 28,037 SF of retail space and 6,540 SF fast food restaurant with drive through. In addition, the project seeks to add 15 multi-family units and two single family units. Project access is planned along Base Line, Church Avenue, and Foster Avenue. It is expected that the project would start construction early 2022 and be completed in about one year. The project would be fully operational in the year 2023.

This air quality impact study has been completed to determine the air quality impacts associated with the development of the proposed light industrial development. The proposed Project site is located within the City of Highland which is located within the South Coast Air Basin (SCAB) within the County of San Bernardino.

The proposed project would implement design features consistent with South Coast Air Quality Management District (SCAQMD) Rule 403 which requires wetting of the site during earth moving activities. Emissions associated with earthwork activities and construction were found to generate less than significant impacts.

Additionally, emissions will be generated from both project area and operational sources once the project is fully operational in 2023 though less than significant air quality impacts would be expected. The project was analyzed under localized significance thresholds for both construction and operations and less than significant impacts would be expected.

Finally, the proposed Project would not be expected to generate offensive odors and would therefore not impact any sensitive receptors.

The project does not seek a rezone and has been constructed to be compatible with the City of Highland's general plan. Based on this, no cumulative impacts would be expected for air quality.

1.0 INTRODUCTION

1.1 Purpose of this Study

The purpose of this Air Quality study is to determine potential significant air quality impacts (if any) that may be created by construction, area or operational emissions (short term or long term) from the proposed Project. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to bring those impacts to a level that would be considered less than significant.

1.2 Project Location

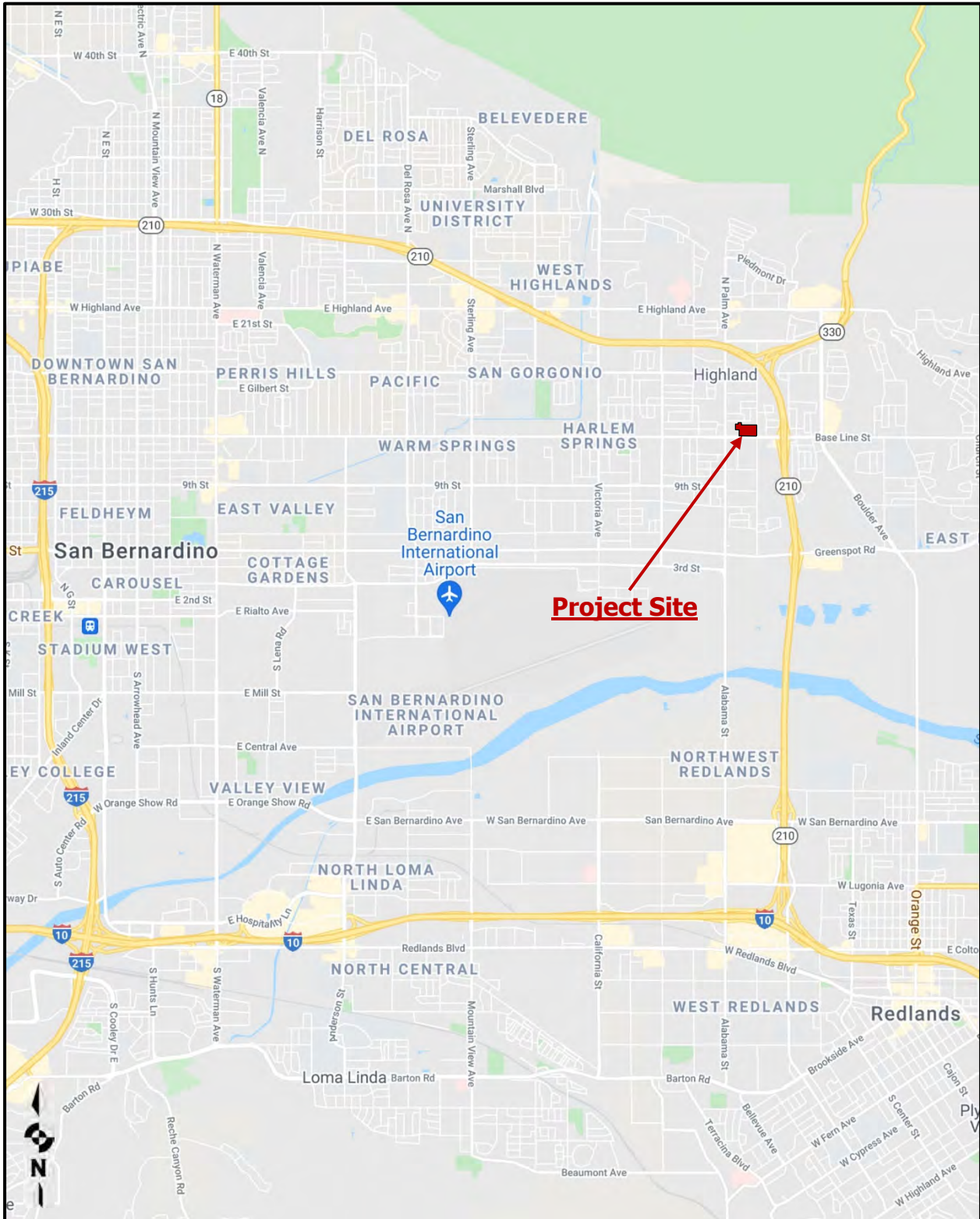
The proposed development is located in the City of Highland which is located within the boundaries of the County of San Bernardino California within the South Coast Air Basin (SCAB). The project site is located at the N/W corner of Base Line Road and Church Avenue in the City of Highland, San Bernardino County, California. The overall property consists of two legal parcels, APNs 1200-381-05-0-000 and 1200-381-43-0-000; Parcel "05" is zoned Mixed Use (MU) and Parcel "43" has split zoning Mixed Use (MU) and Residential Single Family (R1) A general project vicinity map is shown in Figure 1-A.

1.3 Project Description

The Applicant proposes to construct a Mixed-Use development which would consist of a 38,940 square foot (SF) Tractor Supply Site, 28,037 SF of retail space and 6,540 SF fast food restaurant. In addition, the project would construct a residential development which would consist of a 15-unit multi-family residential building, and two single family residences on approximately 9.06 acres.

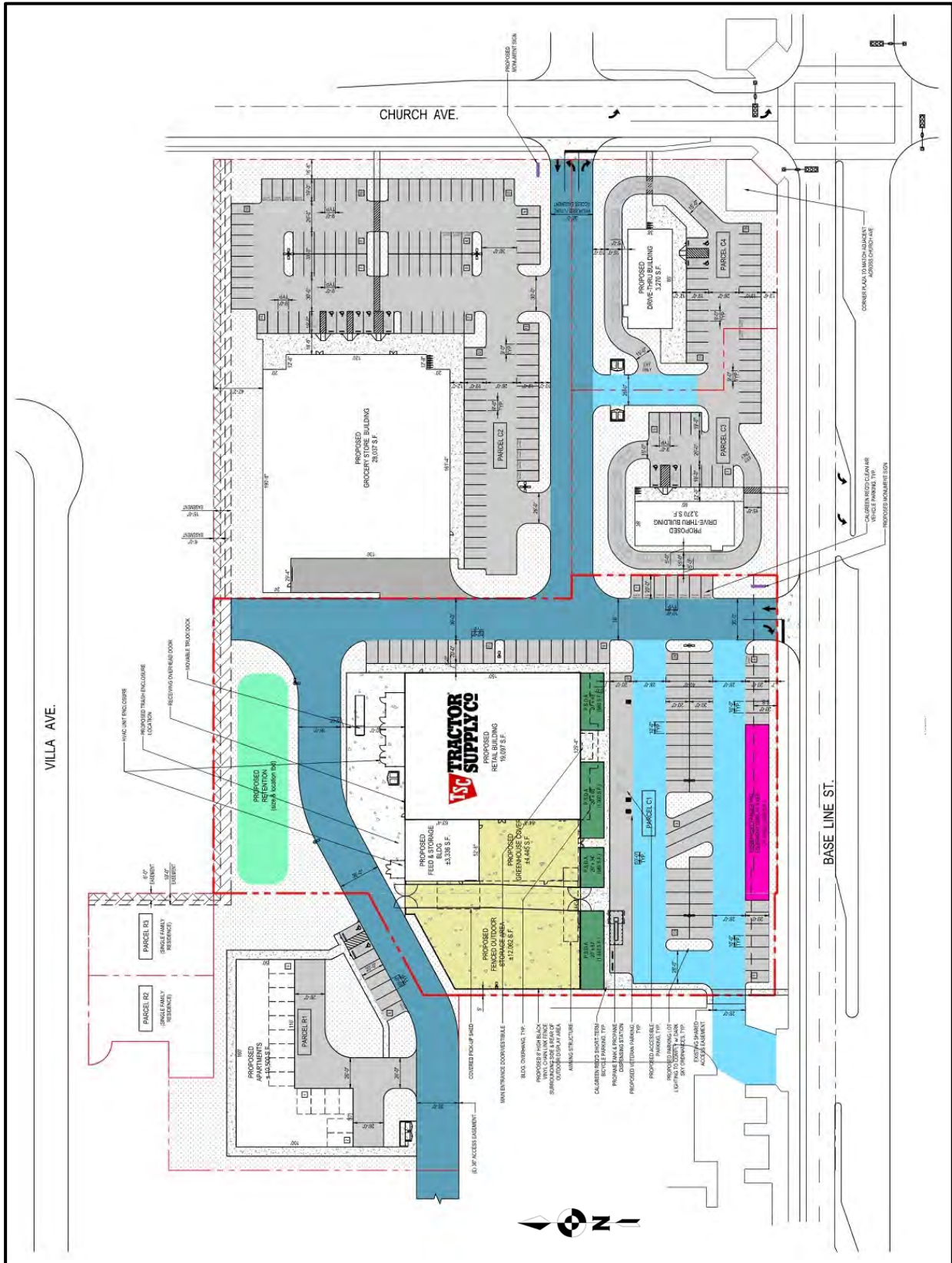
Access for the commercial portion of the project will be taken via two newly constructed driveways along Base Line Road and Church Avenue, connection to Foster Avenue, and shared access (pending legal approval) with parcel 1200-381-42-0-000 (Family Dollar) contiguous on the West side of Parcel "43". The overall property consists of two legal parcels, APNs 1200-381-05-0-000 and 1200-381-43-0-000; Parcel "05" is zoned Mixed Use (MU) and Parcel "43" has split zoning Mixed Use (MU) and Residential Single Family (R1). The proposed project land use will not require a zone change or General Plan amendment. Construction would begin early 2022 and be completed roughly one year later. A site development plan is shown in Figure 1-B.

Figure 1-A: Project Vicinity Map



Source: (Google, 2021)

Figure 1-B: Site Plan Map



Source: (MPA Architects Inc., 2020)

1.4 Project Design Features

The proposed project would implement Project Design Features (PDFs) specifically chosen to reduce both greenhouse gas and air quality emissions. These PDFs would promote sustainability through site design that would conserve energy, water, open space, and other natural resources, and would become specific Conditions of Approval (COA) by the City of Highland:

1. In accordance with SCAQMDs Rule 403. All soil will be wetted twice daily during earthwork activities.
2. The project would install low flow water fixtures in all residential units and retail areas.
3. All lighting within the project will be designed using LED technology for both indoor and outdoor areas.
4. The project would provide separate waste containers to allow for simpler material separations, or the project would pay for a waste collection service that recycles the materials in accordance with AB 341 to achieve a 75% waste diversion for both retail and residential uses. 100% of all green waste will be diverted from landfills and recycled as mulch and used onsite.
5. The project would not install hearth (fireplace) options within multi-family residential units.
6. The project would install Natural Gas hearth units within the Single Family residential units.
7. The project shall install water efficient/drought tolerant and/or native landscape, use smart evapotranspiration controllers and would limit conventional turf.
8. The project would meet all solar development requirements for solar and would offset residential electrical energy usage. The project would install 51 kilowatts (kW) of solar or roughly 162 (315 Watt) solar panels.
9. The project would install eight (8) Electric Vehicle (EV) Charging Stations within the retail areas of the project.

2.0 EXISTING ENVIRONMENTAL SETTING

2.1 Existing Setting

The existing Project site is currently vacant. Adjacent surrounding land uses are mixed use with commercial surrounding the project with the exception of residential to the north. The site topography is relatively flat onsite with elevations ranging from 1252 to 1265 feet above mean sea level.

2.2 Climate and Meteorology

Climate within the SCAB area often varies dramatically over short geographical distances due to the size and topography. Most of southern California is dominated by high-pressure systems for much of the year, which keeps Highland mostly sunny and warm. Typically, during the winter months, the high-pressure system drops to the south and brings cooler, moister weather from the north.

It is common for inversion layers to develop within high-pressure areas, which mostly define pressure patterns over the SCAB. These inversions are caused when a thin layer of the atmosphere increases in temperature with height. An inversion acts like a lid preventing vertical mixing of air through convective overturning.

Daytime temperature highs within the City of Highland typically range between 63 °F in the winter to approximately 95 °F in the summer with the month of August usually being the hottest month. Jurupa Valley usually receives an average seasonal precipitation of 13 inches of rain per year with the months of February and March usually being the wettest months of the year (City Data, 2021)

2.3 Regulatory Standards

2.3.1 Federal Standards and Definitions

The Federal Air Quality Standards were developed per the requirements of The Federal Clean Air Act, which is a federal law that was passed in 1970 and further amended in 1990. This law provides the basis for the national air pollution control effort. An important element of the act included the development of national ambient air quality standards (NAAQS) for major air pollutants. The Clean Air Act established two types of air quality standards otherwise known as primary and secondary standards. **Primary Standards** set limits for the intention of protecting public health, which includes sensitive populations such as asthmatics, children

and elderly. **Secondary Standards** set limits to protect public welfare to include the protection against decreased visibility, damage to animals, crops, vegetation and buildings.

The EPA Office of Air Quality Planning and Standards (OAQPS) has set National Ambient Air Quality Standards for principal pollutants, which are called "criteria" pollutants. These pollutants are defined below:

1. **Carbon Monoxide (CO):** *is a colorless, odorless, and tasteless gas and is produced from the partial combustion of carbon-containing compounds, notably in internal-combustion engines. Carbon monoxide usually forms when there is a reduced availability of oxygen present during the combustion process. Exposure to CO near the levels of the ambient air quality standards can lead to fatigue, headaches, confusion, and dizziness. CO interferes with the blood's ability to carry oxygen.*
2. **Lead (Pb):** *is a potent neurotoxin that accumulates in soft tissues and bone over time. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Because lead is only slowly excreted, exposures to small amounts of lead from a variety of sources can accumulate to harmful levels. Effects from inhalation of lead near the level of the ambient air quality standard include impaired blood formation and nerve conduction. Lead can adversely affect the nervous, reproductive, digestive, immune, and blood-forming systems. Symptoms can include fatigue, anxiety, short-term memory loss, depression, weakness in the extremities, and learning disabilities in children.*
3. **Nitrogen Dioxide (NO₂):** *is a reactive, oxidizing gas capable of damaging cells lining the respiratory tract and is one of the nitrogen oxides emitted from high-temperature combustion, such as those occurring in trucks, cars, power plants, home heaters, and gas stoves. In the presence of other air contaminants, NO₂ is usually visible as a reddish-brown air layer over urban areas. NO₂ along with other traffic-related pollutants is associated with respiratory symptoms, respiratory illness and respiratory impairment. Studies in animals have reported biochemical, structural, and cellular changes in the lung when exposed to NO₂ above the level of the current state air quality standard. Clinical studies of human subjects suggest that NO₂ exposure to levels near the current standard may worsen the effect of allergens in allergic asthmatics, especially in children.*
4. **Particulate Matter (PM₁₀ or PM_{2.5}):** *is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary in shape, size and chemical composition, and can be made up of multiple materials such as metal, soot, soil, and dust. PM₁₀ particles are 10 microns (µm) or less and PM_{2.5} particles are 2.5 (µm) or less. These particles can contribute significantly to regional haze and reduction of visibility in California. Exposure to PM levels exceeding current air quality standards increases the risk of allergies such as asthma and respiratory illness.*
5. **Ozone (O₃):** *is a highly oxidative unstable gas capable of damaging the linings of the respiratory tract. This pollutant forms in the atmosphere through reactions between chemicals*

directly emitted from vehicles, industrial plants, and many other sources. Exposure to ozone above ambient air quality standards can lead to human health effects such as lung inflammation, tissue damage and impaired lung functioning. Ozone can also damage materials such as rubber, fabrics and plastics.

6. **Sulfur Dioxide (SO₂):** is a gaseous compound of sulfur and oxygen and is formed when sulfur-containing fuel is burned by mobile sources, such as locomotives, ships, and off-road diesel equipment. SO₂ is also emitted from several industrial processes, such as petroleum refining and metal processing. Effects from SO₂ exposures at levels near the one-hour standard include bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Children, the elderly, and people with asthma, cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most susceptible to these symptoms. Continued exposure at elevated levels of SO₂ results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality.

2.3.2 State Standards and Definitions

The State of California Air Resources Board (ARB) sets the laws and regulations for air quality on the state level. The California Ambient Air Quality Standards (CAAQS) are either the same as or more restrictive than the NAAQS and also restrict four additional contaminants. Table 2.1 on the following page identifies both the NAAQS and CAAQS. The additional contaminants as regulated by the CAAQS are defined below:

1. **Visibility Reducing Particles:** Particles in the Air that obstruct the visibility.
2. **Sulfates:** are salts of Sulfuric Acid. Sulfates occur as microscopic particles (aerosols) resulting from fossil fuel and biomass combustion. They increase the acidity of the atmosphere and form acid rain.
3. **Hydrogen Sulfide (H₂S):** is a colorless, toxic and flammable gas with a recognizable smell of rotten eggs or flatulence. H₂S occurs naturally in crude petroleum, natural gas, volcanic gases, and hot springs. Usually, H₂S is formed from bacterial breakdown of organic matter. Exposure to low concentrations of hydrogen sulfide may cause irritation to the eyes, nose, or throat. It may also cause difficulty in breathing for some asthmatics. Brief exposures to high concentrations of hydrogen sulfide (greater than 500 ppm) can cause a loss of consciousness and possibly death.
4. **Vinyl Chloride:** also known as chloroethene and is a toxic, carcinogenic, colorless gas with a sweet odor. It is an industrial chemical mainly used to produce its polymer, polyvinyl chloride (PVC).

Table 2.1: Ambient Air Quality Standards

Ambient Air Quality Standards							
Pollutant	Average Time	California Standards ¹		Federal Standards ²			
		Concentration ³	Method ⁴	Primary ^{3,5}	Secondary ^{3,6}	Method ⁷	
Ozone (O ₃) ⁸	1 Hour	0.09 ppm (180 µg/m ³)	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry	
	8 Hour	0.070 ppm (137 µg/m ³)		0.070 ppm (137 µg/m ³)			
Respirable Particulate Matter (PM ₁₀) ⁹	24 Hour	50 µg/m ³	Gravimetric or Beta Attenuation	150 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	20 µg/m ³		-			
Fine Particulate Matter (PM _{2.5}) ⁹	24 Hour	No Separate State Standard		35 µg/m ³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis	
	Annual Arithmetic Mean	12 µg/m ³	Gravimetric or Beta Attenuation	12.0 µg/m ³			15 µg/m ³
Carbon Monoxide (CO)	8 hour	9.0 ppm (10mg/m ³)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m ³)	-	Non-Dispersive Infrared Photometry	
	1 hour	20 ppm (23 mg/m ³)		35 ppm (40 mg/m ³)			
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m ³)		-			-
Nitrogen Dioxide (NO ₂) ¹⁰	Annual Arithmetic Mean	0.030 ppm (57 µg/m ³)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m ³) ⁸	Same as Primary Standard	Gas Phase Chemiluminescence	
	1 Hour	0.18 ppm (339 µg/m ³)		0.100 ppm ⁸ (188/ µg/m ³)			
Sulfur Dioxide (SO ₂) ¹¹	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 ppm ¹⁰ (for Certain Areas)	-	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method) ⁹	
	24 Hour	0.04 ppm (105 µg/m ³)		0.14 ppm ¹⁰ (for Certain Areas) (See Footnote 9)			
	3 Hour	-		-			0.5 ppm (1300 µg/m ³)
	1 Hour	0.25 ppm (655 µg/m ³)		75 ppb (196 µg/m ³)			-
Lead ^{12,13}	30 Day Average	1.5 µg/m ³	Atomic Absorption	-	Same as Primary Standard	High Volume Sampler and Atomic Absorption	
	Calendar Quarter	-		1.5 µg/m ³			
	Rolling 3-Month Average	-		0.15 µg/m ³			
Visibility Reducing Particles	8 Hour	See footnote 14					
Sulfates	24 Hour	25 µg/m ³	Ion Chromatography				
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m ³)	Ultraviolet Fluorescence				
Vinyl Chloride ¹²	24 Hour	0.01 ppm (26 µg/m ³)	Gas Chromatography				

- California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
- National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
- Any equivalent procedure which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
- National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
- National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
- Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.
- On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.
- On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
- To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
- On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO₂ national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
- The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
- The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
- In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: (California Air Resources Board, 5/4/2016)

2.3.3 Regional Standards

The State of California has 35 specific air districts, which are each responsible for ensuring that the criteria pollutants are below the NAAQS and CAAQS. Air basins that exceed either the NAAQS or the CAAQS for any criteria pollutants for designated periods defined in the footnote of Table 2.1 above are designated as “non-attainment areas” for that pollutant. Currently, there are 15 non-attainment areas for the federal ozone standard and two non-attainment areas for the PM_{2.5} standard. The state therefore created the California State Implementation Plan (SIP), which is designed to provide control measures needed for California Air basins to attain ambient air quality standards.

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the SCAB, and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The district prepares Air Quality Management Plans (AQMP) to demonstrate how the region will reduce air pollution emissions to meet the federal and state health-based standards to comply with Clean Air Act requirements and will be ultimately a part of the SIP. Currently the SCAQMD is in the process of updating the latest adopted Air Quality Management Plan (signed December 7, 2012), and is expected to be signed mid to late 2016 (SCAQMD, 2016).

More specifically, the AQMP identifies the path South Coast Air Basin must take for the attainment of federal PM and ozone standards and highlights the significant amount of reductions needed and the urgent need to engage in interagency coordinated planning to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under the federal Clean Air Act.

The City of Jurupa Valley lies within the SCAB. The SCAQMD is the government agency, which regulates sources of air pollution within the City of Jurupa Valley. A complete listing of the current attainment status by pollutants for the SCAB is shown on Table 2.2.

Table 2.2: South Coast Air Basin Attainment Status by Pollutant

County Air Basin Attainment Status by Pollutant			
Pollutant	Average Time	California Standards	Federal Standards
Ozone (O ₃)	1 Hour	Non-attainment	No Federal Standard
	8 Hour		Extreme Nonattainment
Respirable Particulate Matter (PM ₁₀)	24 Hour	Non-attainment	Serious Nonattainment
	Annual Arithmetic Mean	No State Standard	Serious Nonattainment
Fine Particulate Matter PM _{2.5}	24 Hour	No State Standard	Non-attainment
	Annual Arithmetic Mean	Non-attainment	Non-attainment
Carbon Monoxide (CO)	8 hour	Attainment	Attainment Maintenance ¹
	1 hour		
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	1 Hour	Non-attainment	No Federal Standard
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	No State Standard	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	No Federal Standard
Lead	30 Day Average	Attainment	No Federal Standard
	Calendar Quarter	No State Standard	Attainment

1. Maintenance Area (defined by U.S. Department of Transportation) is any geographic region of the United States previously designated nonattainment pursuant to the CAA Amendments of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under section 175A of the CAA, as amended.

2.4 California Environmental Quality Act (CEQA) Significance Thresholds

The California Environmental Quality Act has provided a checklist to identify the significance of air quality impacts. These guidelines are found in a 2018 updated Appendix G of the CEQA guidelines (California, 2018) :

AIR QUALITY -- Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:

- A:* Conflict with or obstruct implementation of the SCAQMD AQMP or applicable portions of the State Implementation Plan (SIP)?
- B:* Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard.
- C:* Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations?
- D:* Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

2.5 Air Quality Impact Assessment Screening Thresholds

To determine whether a project would create potential air quality impacts, the City of Jurupa Valley uses South Coast Air Quality Management District's (SQAQMD) Air Quality Thresholds. The screening thresholds for construction and daily operations are shown in Table 2.3 below. Demonstrating a projects compliance with SCAQMD Screening thresholds are a significant part of demonstrating compliance with SCAQMDs AQMP and is critical to insuring less than significant impacts to questions A and B identified in section 2.4 above.

Table 2.3: Screening Threshold for Criteria Pollutants

Pollutant	Total Emissions (Pounds per Day)
Construction Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	150 and 55
Nitrogen Oxide (NO _x)	100
Sulfur Oxide (SO _x)	150
Carbon Monoxide (CO)	550
Volatile Organic Compounds (VOCs)	75
Operational Emissions	
Respirable Particulate Matter (PM ₁₀ and PM _{2.5})	150 and 55
Nitrogen Oxide (NO _x)	55
Sulfur Oxide (SO _x)	150
Carbon Monoxide (CO)	550
Lead and Lead Compounds	3.2
Volatile Organic Compounds (VOCs)	55

2.6 Local Air Quality

Criteria pollutants are measured continuously throughout the SCAB. This data is used to track ambient air quality patterns throughout the surrounding area. As mentioned earlier, this data is also used to determine attainment status when compared to the NAAQS and CAAQS. The SCAPCD is responsible for monitoring and reporting monitoring data. The District operates approximately 30 monitoring sites that collected data on criteria pollutants within the SCAB.

Ambient Data was obtained from the California Environmental Protection Agency's Air Resources Board Website (California Air Resources Board, 2021). Table 2.4 identifies the closest criteria pollutants monitored to the project as well as identifies the relative distance to the project site. The San Bernardino monitoring station is located approximately 4 miles to the west of the proposed project site.

Table 2.4: Three-Year Ambient Air Quality Summary near the Project Site

Pollutant	Ambient Monitoring Site	Averaging Time	CAAQS	NAAQS	2017	2018	2019
O ₃ (ppm)	San Bernardino – 4 th Street	1 Hour	0.09 ppm	-	0.158	0.138	0.127 sb
		8 Hour	0.070 ppm	0.075 ppm	0.136	0.116	0.114 sb
PM ₁₀ (µg/m ³)		24 Hour	50 µg/m ³	150 µg/m ³	157.8	130.2	112.7
		Annual Arithmetic Mean	20 µg/m ³	-	32.6	30.7	30.4
PM _{2.5} (µg/m ³)		24 Hour	-	35 µg/m ³	38.2	30.1	60.5
		Annual Arithmetic Mean	12 µg/m ³	15 µg/m ³	11.4	11.1	Data Not Provided
NO ₂ (ppm)		Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.015	0.015	0.014
		1 Hour	0.18 ppm	-	0.066	0.057	0.059
All ambient emissions reported are assumed to be taken by the district in compliance with both the NAAQS and CAAQS. Methodologies for those measurements are discussed in Table 2.1 of this report.							

2.7 Localized Significance Thresholds

In June 2003 SCAQMD proposed a methodology for calculating Localized Significance Thresholds (LSTs) for NO₂, CO, PM_{2.5} and PM₁₀. The LST methodology was developed to be used as a tool to assist lead agencies to analyze localized impacts associated with project-specific level proposed projects and would not be applicable to regional projects such as general plans. The LST methodology was last updated to incorporate the most recent ambient air quality standards (South Coast Air Quality Management District, 2008). The LST methodology is often utilized by most agencies governed under SCAQMD CEQA review which would include the County of San Bernardino.

SCAQMD developed mass rate look-up tables for projects less than five acres to assist agencies with development of LSTs, however LST guidelines recommend project specific air quality dispersion modeling for projects greater than five acres (South Coast Air Quality Management District, 2014). Air dispersion modeling utilizing AERMOD Version 19191 which replaced ISCS3 as the preferred dispersion modeling. The software has the ability to

incorporate meteorological inputs as well as multiple source and receptor locations and is now used throughout the world.

Per the requirements of SCAQMDs LSTs methodology, emissions for gases in attainment such as NO₂ and CO are calculated by adding emission impacts from the project development to the peak background ambient NO₂ and CO concentrations and comparing the total concentration to the most stringent ambient air quality standards. Also, according to SCAQMD Rule 403, emissions for non-attainment particulate matter such as PM 10 and PM 2.5 can produce no more than 10.4 µg/m³. Demonstrating a projects compliance with SCAQMD Screening thresholds demonstrate compliance with SCAQMDs AQMP and is critical to insuring less than significant impacts to questions A and B identified in Section 2.4 above.

3.0 METHODOLOGY

3.1 Construction Assumptions

The Project construction dates were estimated based on an estimated construction kickoff starting in early 2022 and completing roughly one year later. Table 3.1 shows the expected timeframes for the construction processes as well as the expected number of pieces of equipment to complete the project. As a design feature and to be consistent with SCAQMD rule 403, the project will wet the site regularly to minimize fugitive dust emissions (SCAQMD, 2005).

Table 3.1: Expected Construction Equipment

Equipment Identification	Start Dates	Completion Dates	Quantity
Site Preparation	01/02/2022	01/14/2022	
Rubber Tired Dozers			3
Tractors/Loaders/Backhoes			4
Grading	01/15/2022	02/11/2022	
Excavators			1
Graders			1
Rubber Tired Dozers			1
Tractors/Loaders/Backhoes			3
Building Construction	02/12/2022	12/30/2022	
Cranes			1
Forklifts			3
Generator Sets			1
Tractors/Loaders/Backhoes			3
Welders			1
Paving	12/31/2022	01/27/2023	
Pavers			2
Paving Equipment			2
Rollers			2
Architectural Coating	01/28/2023	02/24/2023	
Air Compressors			1
This equipment list is based upon equipment inventory within CALLEEMOD 2016.3.2. The quantity and types are based upon discussions with the project applicant.			

Air Quality impacts related to construction and daily operations were calculated using the latest CalEEMod air quality model, which was developed by Breeze Software for SCAQMD. The construction module in CalEEMod is used to calculate the emissions associated with the construction of the project and uses methodologies presented in the US EPA AP-42 document with emphasis on Chapter 11.9. The CalEEMod input/output model is shown in **Attachment A** to this report.

3.2 Localized Threshold Construction Impacts

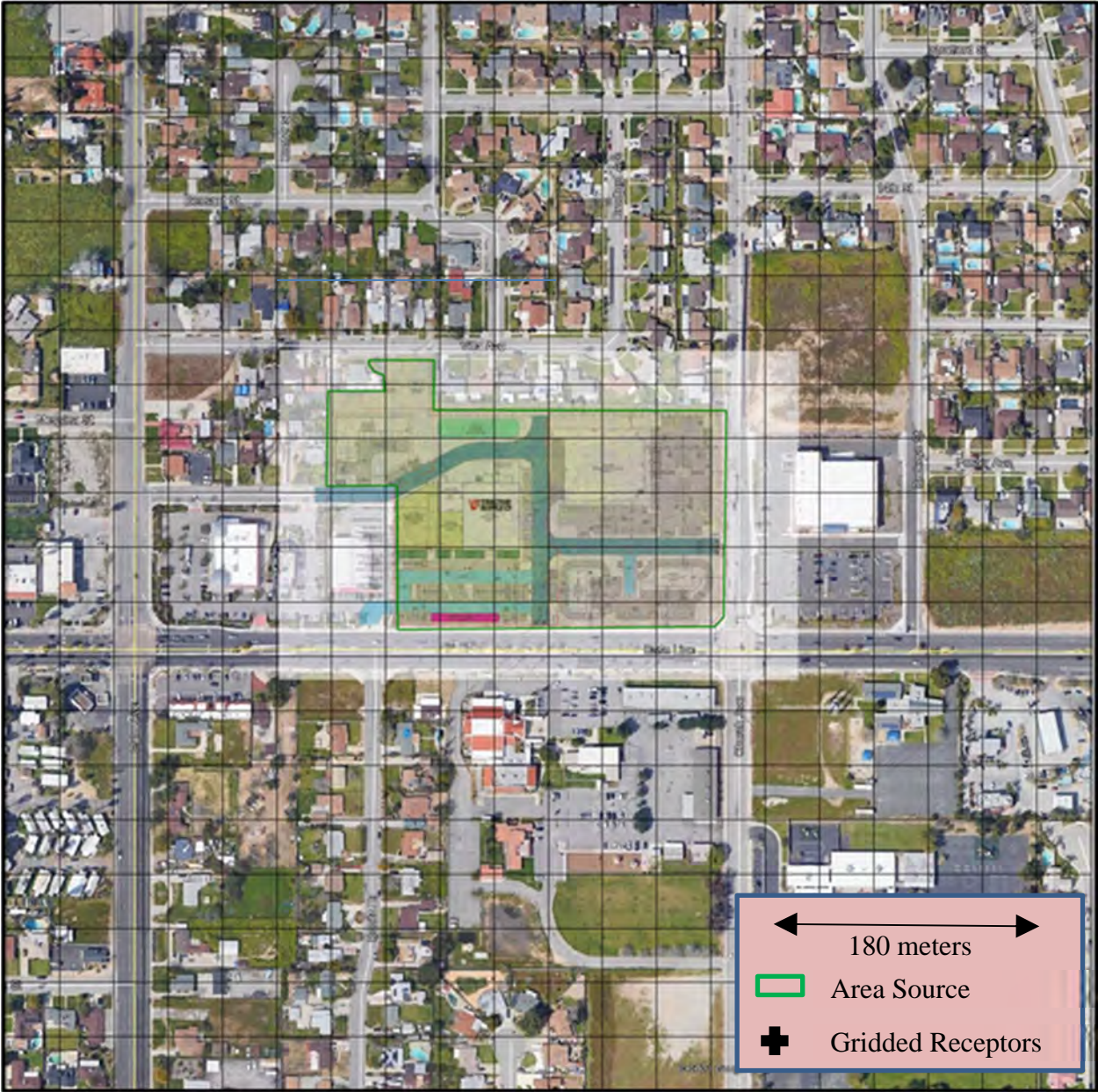
Utilizing the AERMOD dispersion model, project level air quality emissions for NO_x , and PM_{10} emissions were calculated utilizing an area source method with an area equal to the project boundaries and a source height of 3 meters. A series of concentric boundary receptors (Purple Polygons) was then utilized which represents the typical distances used by SCAQMD to calculate LSTs. The layout of the site is shown below in Figure 3-A.

Based on SCAQMD information, LST concentrations for PM_{10} is $10.4 \mu\text{g}/\text{m}^3$ for construction whenever background PM emissions exceed ambient air quality thresholds. To derive LST concentrations for NO_2 , the difference between the ambient air quality standard and the ambient concentration for the pollutant must be determined. The following equation is used:

$$C_{pc} = C_{AAQS} - C_b$$

Where: C_{pc} = Project contribution emission levels in micrograms per cubic meter; and
 C_b = Background Concentration measured at the closest air quality monitoring station in micrograms per cubic meter; and
 C_{AAQS} = is the limiting state or federal standards in micrograms per cubic meter.

Figure 3-A: AERMOD Area Source Modeling



3.3 Operational Emissions

Once construction is completed the proposed project would generate emissions from daily operations which would include sources such as Area, Energy, Mobile, Waste and Water uses, which are also calculated within CalEEMod. Area Sources include consumer products, landscaping and architectural coatings as part of regular maintenance. Energy sources would be from uses such as electricity and natural gas. Finally, mobile or transportation related emissions are calculated in CalEEMod through the use of EMFAC2014 and is also shown in **Attachment A** to this report. Trip Generation for the project was estimated by the Project Traffic Engineer and was estimated to be 4,978 total trips (TJW Engineering, Inc., 2020). Typical trip distances estimated by EMFAC were used within this analysis and are shown in **Attachment B** to this report.

In the EMFAC model, the emission rates are multiplied with vehicle activity data provided by the regional transportation agencies to calculate the statewide or regional emission inventories. An emission inventory is based on the emission rate (e.g., grams per pollutant emitted over a mile) and vehicle activity (e.g., miles driven per day). Area sources originate from daily onsite uses, which require either burning fuel to generate energy (i.e., natural gas furnaces, gas water heaters and small engines) or the evaporation of organic gases such as from paints (architectural coatings).

The CalEEMod model estimates emission predictions for ROG, NO_x, CO, SO₂, PM₁₀ and PM_{2.5} for area source assumptions. It is assumed that 100% of the facilities will have access to Natural Gas as opposed to propane. Additionally, it was assumed that 10% of the structural surface area will be re-painted each year. Given the use, no fireplaces are assumed. Furthermore, all PDFs identified in Section 1.4 of this report have been assumed within this analysis.

Consumer product emissions are generated by a wide range of product categories, including air fresheners, automotive products, household cleaners, and personal care products. Emissions associated with these products primarily depend on the increased population associated with residential development.

3.4 Odor Impacts

Potential onsite odor generators would include short term construction odors from activities such as paving and possibly painting. The construction odors would be considered short term and would not be considered an impact. Given this the Project will not have a potential to create offensive odors and would therefore not be considered an impact under CEQA.

4.0 FINDINGS

4.1 Construction Findings

Based on the input parameters identified in Section 3.2 of this report, no significant construction impacts are expected. Table 4.1 shows the calculated emissions from construction.

Table 4.1: Expected Construction Emissions Summary

Year	ROG	NO _x	CO	SO ₂	PM ₁₀ (Dust)	PM ₁₀ (Exhaust)	PM ₁₀ (Total)	PM _{2.5} (Dust)	PM _{2.5} (Exhaust)	PM _{2.5} (Total)
2022 (lb/day)	3.26	33.13	20.38	0.04	8.33	1.61	9.94	4.52	1.48	6.01
2023 (lb/day)	41.61	10.23	15.11	0.02	0.18	0.51	0.68	0.05	0.47	0.51
Significance Threshold (lb/day)	75	100	550	150	-	-	150	-	-	55
Exceeds Screening Threshold	No	No	No	No	-	-	No	-	-	No

4.2 Localized Significance Thresholds for Construction

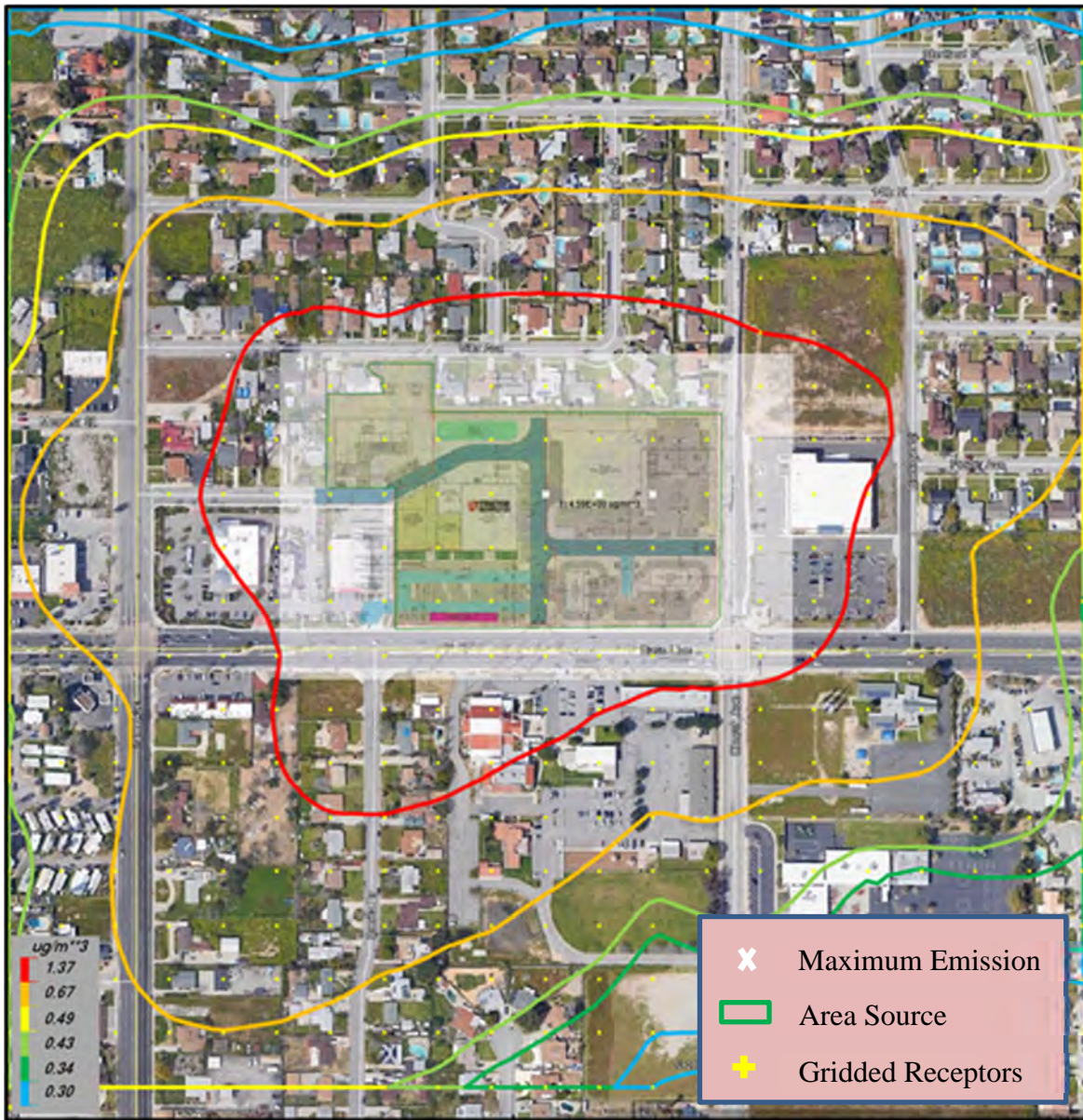
SCAQMD also recommend using LST methodology which incorporates background ambient air quality data. LDN consulting utilized the AERMOD dispersion model for these calculations using an urban setting to determine project level emissions for NO_x and PM₁₀. Total construction emissions were used as taken from CalEEMod and were normalized to the corresponding averaging time used by CAAQS methodology. Construction emissions for CO are so low compared to the thresholds, impacts would not be expected. Additionally, impacts for PM 2.5 would be lower since the thresholds are the same but the generations is less.

Based upon the CalEEMod air quality modeling as shown in CalEEMod annual outputs, worst-case NO_x and PM₁₀ would cumulatively produce 2.28 and 0.28 tons respectively over the construction duration of 418-days. The average rate over the project area is 0.057 and 0.0069 grams per second or 1.56×10^{-6} g/m²/s and 1.88×10^{-7} g/m²/s for each pollutant during the construction day and was modeled as such within AERMOD (**Attachments C and – D**). Furthermore, emission output plots as well as the maximum exposures and exposure location is shown in Figures 4-A and –B starting on the following page.

Figure 4-A: NOx – 1HR Maximum Construction AERMOD Plot



Figure 4-B: PM₁₀ – 24HR Maximum Construction AERMOD Plot



Based on these models, it was found that the project maximum exposures and exposure contours from the project would be less than significant when compared to LSTs. Table 4.2 shows the results from AERMOD.

Table 4.2: AERMOD Modeling Results during construction

Pollutant	Averaging Time	Threshold	Background Ambient Air Quality Data		LST (µg/m3)	Worst-Case Project Contribution (µg/m3)	Sig.?
			Data	(µg/m3)			
NOx	1 Hour	0.18 ppm (339 µg/m ³)	0.066 ppm	124.3	214.7	132	No
PM ₁₀	24 Hour	10.4 µg/m ³	157.8 µg/m ³	157.8	10.4	4.59	No

The proposed Project has been designed in accordance with the existing site zoning designation and is consistent with the City's General Plan. Since no direct operation on construction impacts are expected, the proposed project would be consistent with the SIP and local AQMP. Given this, less than significant cumulative operational impacts would be expected.

4.3 Operational Findings

Once construction is completed the proposed project would generate air quality emissions from daily operations which are calculated within CalEEMod. Based on the input parameters identified in Section 3.2 of this report, no operational impacts would be expected. Operational emissions are shown in Table 4.3.

Table 4.3: Expected Daily Pollutant Generation

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Summer Scenario						
Area Source Emission Estimates (Lb/Day)	2.14	0.05	1.45	0.00	0.01	0.01
Energy Source Emissions (Lb/Day)	0.07	0.59	0.47	0.00	0.05	0.05
Operational Vehicle Emissions (Lb/Day)	6.95	37.57	41.78	0.16	9.34	2.56
Total with Design Features (Lb/Day)	9.15	38.21	43.70	0.17	9.39	2.61
SCAQMD Thresholds	55	55	550	150	150	55
Significant?	No	No	No	No	No	No
Winter Scenario						
Area Source Emission Estimates (Lb/Day)	2.14	0.05	1.45	0.00	0.01	0.01
Energy Source Emissions (Lb/Day)	0.07	0.59	0.47	0.00	0.05	0.05
Operational Vehicle Emissions (Lb/Day)	5.84	36.87	40.70	0.15	9.34	2.56
Total with Design Features (Lb/Day)	8.04	37.51	42.62	0.15	9.39	2.61
Significant?	No	No	No	No	No	No
Daily pollutant generation assumes trip distances within CALLEEMOD 2016.3.2						

4.4 Localized Significance Thresholds Operations

SCAQMD also recommends using LST methodology for operations Table 4.4 shows the modeled estimates for operations excluding offsite mobile emissions. Based upon the CalEEMod air quality modeling as shown in CalEEMod worst-case daily emissions for NO_x and PM₁₀ would produce 0.6415 and 0.0559 lbs/day during operations. The average rate over the project area is 0.0033 and 0.00029 grams per second or 9.17 x10⁻⁸ g/m²/s and 7.99x10⁻⁹ g/m²/s for each pollutant during the worst case operational day and was modeled in CalEEMod and the AERMOD model (**Attachments E and – F**). Furthermore, emission output plots as well as the maximum exposures and exposure location is shown in Figures 4-C and –D starting on the following page.

Table 4.4: On-Site Daily Emissions for Comparison to LSTs

Pollutant	Project (lb/day)	LST (µg/m ³)	Worst-Case Project Contribution (µg/m ³)	Significant?
NO _x (Operation)	0.96	214.7	7.73	No
PM ₁₀ (Operation)	1.36	2.5	0.195	No

Figure 4-C: NOx – 1HR Maximum Operations AERMOD Plot

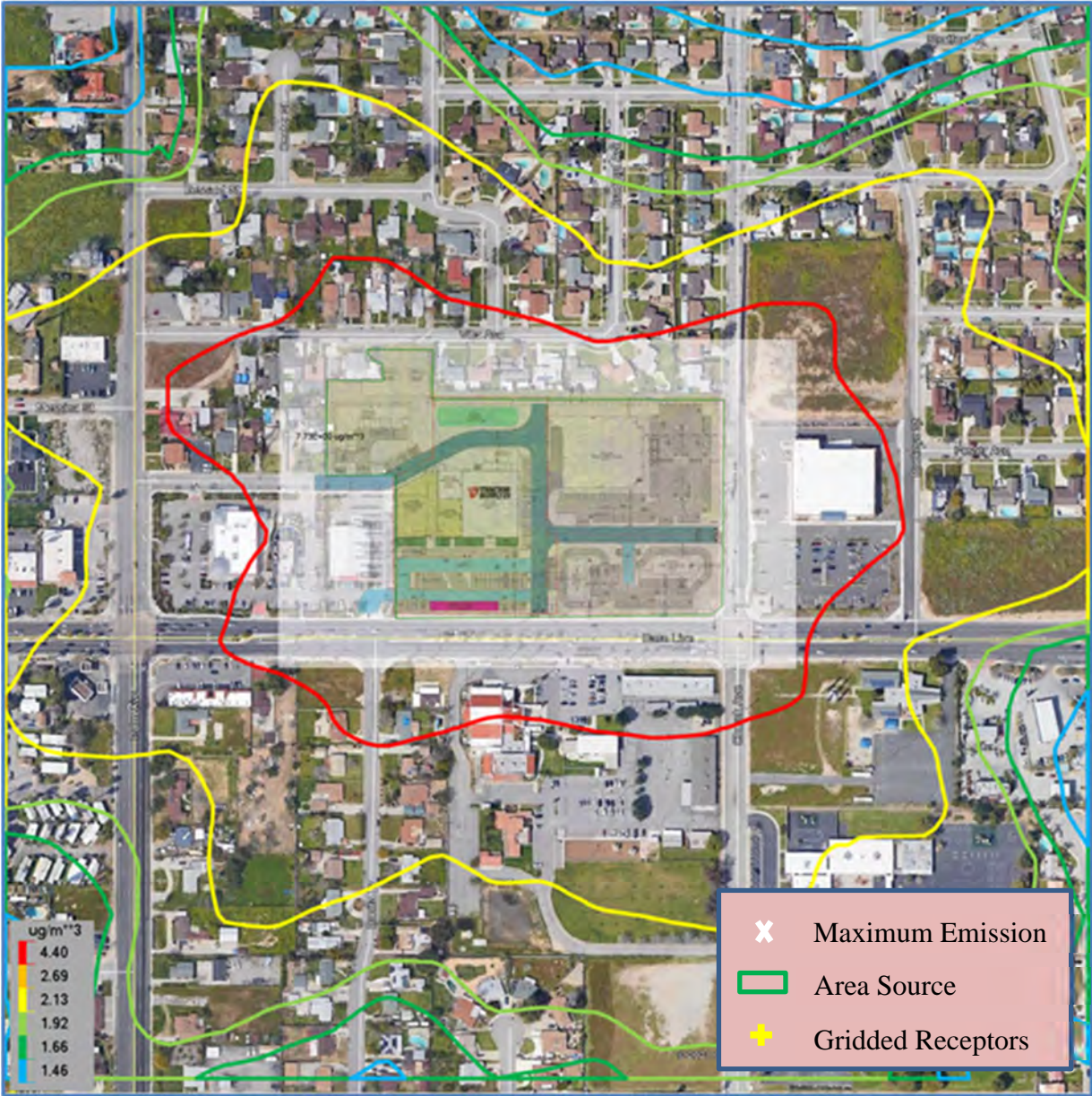
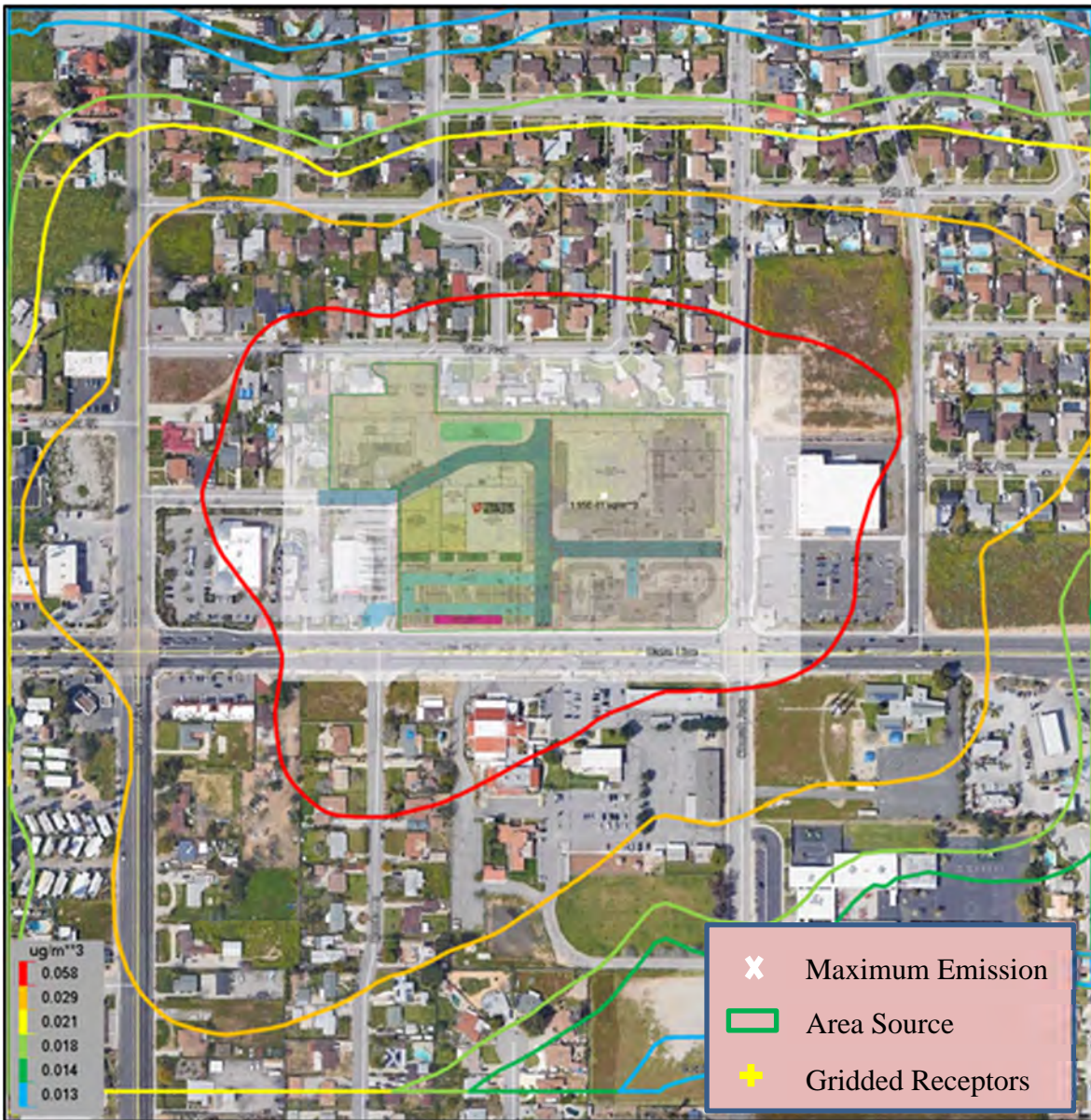


Figure 4-D: PM₁₀ – 24HR Maximum Operations AERMOD Plot



4.5 Odor Impact Findings

Odor impacts from construction operations would be considered short term events and would not be considered an impact. Long term operations will not create offensive odors and would not create any operational odor impacts.

4.6 Conclusion of Findings

During construction of the proposed Project, fugitive dust emissions would be expected but would not exceed thresholds established by the SCAQMD. Given this, no construction mitigation will require mitigation.

Additionally, emissions will be generated from both project area and operational sources once the project is fully operational in 2023 though no air quality impacts would be expected. The project was analyzed under localized significance thresholds for both construction and operations and was found to generate less than significant impacts.

Finally, the proposed Project would not be expected to generate offensive odors and would therefore not impact any sensitive receptors.

The project does not seek a rezone and has been constructed to be compatible with the City of Highland's general plan. Based on this, no cumulative impacts would be expected for air quality.

As identified in Section 1.4 of this report, the project will implement PDFs which have an effect on reducing air quality emissions. These PDFs were assumed within this analysis and modeled results assume the PDFs are implemented. Based on this, all PDFs will be a condition for approval by the City of Highland. The PDFs assumed within this report are identified below:

1. In accordance with SCAQMDs Rule 403. All soil will be wetted twice daily during earthwork activities.
2. The project would install low flow water fixtures in all residential units and retail areas.
3. All lighting within the project will be designed using LED technology for both indoor and outdoor areas.
4. The project would provide separate waste containers to allow for simpler material separations, or the project would pay for a waste collection service that recycles the materials in accordance with AB 341 to achieve a 75% waste diversion for both retail and residential uses. 100% of all green waste will be diverted from landfills and recycled as mulch and used onsite.
5. The project would not install hearth (fireplace) options within multi-family residential units.

6. The project would install Natural Gas hearth units within the single family residential units.
7. The project shall install water efficient/drought tolerant and/or native landscape, use smart evapotranspiration controllers and would limit conventional turf.
8. The project would meet all solar development requirements for solar and would offset residential electrical energy usage. The project would install 51 kilowatts (kW) of solar or roughly 162 (315 Watt) solar panels.
9. The project would install eight (8) Electric Vehicle (EV) Charging Stations within the retail areas of the project.

5.0 REFERENCES

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ATTACHMENT A

CALLEEMOD 2016.3.2

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

Highland Commercial Tractor Supply
San Bernardino-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	261.00	Space	2.35	104,400.00	0
Fast Food Restaurant with Drive Thru	6.54	1000sqft	0.15	6,540.00	0
Apartments Mid Rise	15.00	Dwelling Unit	0.39	15,000.00	43
Single Family Housing	2.00	Dwelling Unit	0.65	3,600.00	6
Hardware/Paint Store	38.94	1000sqft	4.88	38,940.00	0
Strip Mall	28.04	1000sqft	0.64	28,040.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	441.03	CH4 Intensity (lb/MW hr)	0.02	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

Project Characteristics - RPS 2023 47.7%

Land Use - 9.06 acres

Construction Phase - CS

Vehicle Trips - Trips based on Traffic Study. VMT/trip 5.55 per EMFAC

Woodstoves - MF no hearth options

SF has NG hearth options only

Energy Use -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Waste Mitigation -

Landscape Equipment -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	12.75	0.00
tblFireplaces	NumberGas	1.70	2.00
tblFireplaces	NumberNoFireplace	1.50	15.00
tblFireplaces	NumberNoFireplace	0.20	0.00
tblFireplaces	NumberWood	0.75	0.00
tblFireplaces	NumberWood	0.10	0.00
tblLandUse	LotAcreage	0.89	4.88
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	441.03
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	ST_TR	6.39	5.44
tblVehicleTrips	ST_TR	722.03	470.95
tblVehicleTrips	ST_TR	82.52	18.99
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.44

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

tblVehicleTrips	SU_TR	542.72	470.95
tblVehicleTrips	SU_TR	68.65	18.99
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	496.12	470.95
tblVehicleTrips	WD_TR	51.29	18.99
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	0.75	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.75	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00

2.0 Emissions Summary

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Energy	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
Mobile	6.9485	37.5723	41.7792	0.1617	9.2467	0.0891	9.3358	2.4742	0.0830	2.5572		16,613.3654	16,613.3654	1.1120		16,641.1644
Total	9.1509	38.2137	43.6977	0.1655	9.2467	0.1450	9.3917	2.4742	0.1388	2.6130	0.0000	17,373.9001	17,373.9001	1.1291	0.0139	17,406.2686

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Energy	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
Mobile	6.9485	37.5723	41.7792	0.1617	9.2467	0.0891	9.3358	2.4742	0.0830	2.5572		16,613.3654	16,613.3654	1.1120		16,641.1644
Total	9.1509	38.2137	43.6977	0.1655	9.2467	0.1450	9.3917	2.4742	0.1388	2.6130	0.0000	17,373.9001	17,373.9001	1.1291	0.0139	17,406.2686

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	12/30/2022	5	230	
4	Paving	Paving	12/31/2022	1/27/2023	5	20	
5	Architectural Coating	Architectural Coating	1/28/2023	2/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.35

Residential Indoor: 37,665; Residential Outdoor: 12,555; Non-Residential Indoor: 110,280; Non-Residential Outdoor: 36,760; Striped Parking Area: 6,264 (Architectural Coating – sqft)

OffRoad Equipment

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	80.00	31.00	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
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	18.0663	1.6126	19.6788	9.9307	1.4836	11.4143		3,686.0619	3,686.0619	1.1922		3,715.8655

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0854	0.0508	0.6846	1.9100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		189.8284	189.8284	5.0300e-003		189.9541
Total	0.0854	0.0508	0.6846	1.9100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		189.8284	189.8284	5.0300e-003		189.9541

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.1298	1.6126	9.7424	4.4688	1.4836	5.9524	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0854	0.0508	0.6846	1.9100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		189.8284	189.8284	5.0300e-003		189.9541
Total	0.0854	0.0508	0.6846	1.9100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		189.8284	189.8284	5.0300e-003		189.9541

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.5523	0.9409	7.4932	3.3675	0.8656	4.2331		2,872.0464	2,872.0464	0.9289		2,895.2684

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951
Total	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	2.9486	0.9409	3.8894	1.5154	0.8656	2.3810	0.0000	2,872.0464	2,872.0464	0.9289		2,895.2684

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951
Total	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0747	2.8353	0.5201	8.2900e-003	0.1985	4.3100e-003	0.2029	0.0572	4.1200e-003	0.0613		875.1535	875.1535	0.0538		876.4991
Worker	0.3796	0.2259	3.0424	8.4700e-003	0.8942	5.5500e-003	0.8998	0.2372	5.1100e-003	0.2423		843.6819	843.6819	0.0223		844.2406
Total	0.4543	3.0612	3.5625	0.0168	1.0928	9.8600e-003	1.1026	0.2943	9.2300e-003	0.3035		1,718.8354	1,718.8354	0.0762		1,720.7396

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.4 Building Construction - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0747	2.8353	0.5201	8.2900e-003	0.1985	4.3100e-003	0.2029	0.0572	4.1200e-003	0.0613		875.1535	875.1535	0.0538		876.4991
Worker	0.3796	0.2259	3.0424	8.4700e-003	0.8942	5.5500e-003	0.8998	0.2372	5.1100e-003	0.2423		843.6819	843.6819	0.0223		844.2406
Total	0.4543	3.0612	3.5625	0.0168	1.0928	9.8600e-003	1.1026	0.2943	9.2300e-003	0.3035		1,718.8354	1,718.8354	0.0762		1,720.7396

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

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	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4107	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.660 3	2,207.660 3	0.7140		2,225.510 4

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951
Total	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4107	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951
Total	0.0712	0.0424	0.5705	1.5900e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		158.1904	158.1904	4.1900e-003		158.2951

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3406	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0666	0.0381	0.5238	1.5300e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		152.2425	152.2425	3.7500e-003		152.3363
Total	0.0666	0.0381	0.5238	1.5300e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		152.2425	152.2425	3.7500e-003		152.3363

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3406	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0666	0.0381	0.5238	1.5300e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		152.2425	152.2425	3.7500e-003		152.3363
Total	0.0666	0.0381	0.5238	1.5300e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		152.2425	152.2425	3.7500e-003		152.3363

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.3474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	41.5391	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0710	0.0407	0.5587	1.6300e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		162.3920	162.3920	4.0000e-003		162.4921
Total	0.0710	0.0407	0.5587	1.6300e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		162.3920	162.3920	4.0000e-003		162.4921

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.3474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	41.5391	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0710	0.0407	0.5587	1.6300e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		162.3920	162.3920	4.0000e-003		162.4921
Total	0.0710	0.0407	0.5587	1.6300e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		162.3920	162.3920	4.0000e-003		162.4921

4.0 Operational Detail - Mobile

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	6.9485	37.5723	41.7792	0.1617	9.2467	0.0891	9.3358	2.4742	0.0830	2.5572		16,613.3654	16,613.3654	1.1120		16,641.1644
Unmitigated	6.9485	37.5723	41.7792	0.1617	9.2467	0.0891	9.3358	2.4742	0.0830	2.5572		16,613.3654	16,613.3654	1.1120		16,641.1644

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	81.60	81.60	81.60	146,392	146,392
Fast Food Restaurant with Drive Thru	3,080.01	3,080.01	3,080.01	2,187,174	2,187,174
Hardware/Paint Store	739.47	739.47	739.47	787,550	787,550
Parking Lot	0.00	0.00	0.00		
Single Family Housing	18.88	18.88	18.88	33,871	33,871
Strip Mall	1,058.51	1,058.51	1,058.51	1,181,901	1,181,901
Total	4,978.47	4,978.47	4,978.47	4,336,888	4,336,888

4.3 Trip Type Information

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Fast Food Restaurant with Drive	5.55	5.55	5.55	2.20	78.80	19.00	29	21	50
Hardware/Paint Store	5.55	5.55	5.55	13.60	67.40	19.00	45	29	26
Parking Lot	5.55	5.55	5.55	0.00	0.00	0.00	0	0	0
Single Family Housing	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Strip Mall	5.55	5.55	5.55	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Fast Food Restaurant with Drive Thru	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Hardware/Paint Store	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Parking Lot	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Single Family Housing	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Strip Mall	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
NaturalGas Unmitigated	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

5.2 Energy by Land Use - Natural Gas

Unmitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	607.976	6.5600e-003	0.0560	0.0238	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003		71.5266	71.5266	1.3700e-003	1.3100e-003	71.9516
Fast Food Restaurant with Drive Thru	4899.45	0.0528	0.4803	0.4035	2.8800e-003		0.0365	0.0365		0.0365	0.0365		576.4054	576.4054	0.0111	0.0106	579.8306
Hardware/Paint Store	236.841	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003		27.8636	27.8636	5.3000e-004	5.1000e-004	28.0292
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
Single Family Housing	167.65	1.8100e-003	0.0155	6.5700e-003	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003		19.7236	19.7236	3.8000e-004	3.6000e-004	19.8408
Strip Mall	170.545	1.8400e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003		20.0641	20.0641	3.8000e-004	3.7000e-004	20.1833
Total		0.0656	0.5918	0.4674	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5832	715.5832	0.0137	0.0131	719.8355

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0.607976	6.5600e-003	0.0560	0.0238	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003		71.5266	71.5266	1.3700e-003	1.3100e-003	71.9516
Fast Food Restaurant with Drive Thru	4.89945	0.0528	0.4803	0.4035	2.8800e-003		0.0365	0.0365		0.0365	0.0365		576.4054	576.4054	0.0111	0.0106	579.8306
Hardware/Paint Store	0.236841	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003		27.8636	27.8636	5.3000e-004	5.1000e-004	28.0292
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
Single Family Housing	0.16765	1.8100e-003	0.0155	6.5700e-003	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003		19.7236	19.7236	3.8000e-004	3.6000e-004	19.8408
Strip Mall	0.170545	1.8400e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003		20.0641	20.0641	3.8000e-004	3.7000e-004	20.1833
Total		0.0656	0.5918	0.4674	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5832	715.5832	0.0137	0.0131	719.8355

6.0 Area Detail

6.1 Mitigation Measures Area

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Unmitigated	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.8800e-003	0.0332	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	42.3529	42.3529	8.1000e-004	7.8000e-004	42.6046
Landscaping	0.0454	0.0165	1.4370	8.0000e-005		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		2.5986	2.5986	2.6200e-003		2.6641
Total	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.8800e-003	0.0332	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	42.3529	42.3529	8.1000e-004	7.8000e-004	42.6046
Landscaping	0.0454	0.0165	1.4370	8.0000e-005		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		2.5986	2.5986	2.6200e-003		2.6641
Total	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Highland Commercial Tractor Supply - San Bernardino-South Coast County, Summer

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

Highland Commercial Tractor Supply
San Bernardino-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	261.00	Space	2.35	104,400.00	0
Fast Food Restaurant with Drive Thru	6.54	1000sqft	0.15	6,540.00	0
Apartments Mid Rise	15.00	Dwelling Unit	0.39	15,000.00	43
Single Family Housing	2.00	Dwelling Unit	0.65	3,600.00	6
Hardware/Paint Store	38.94	1000sqft	4.88	38,940.00	0
Strip Mall	28.04	1000sqft	0.64	28,040.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	441.03	CH4 Intensity (lb/MW hr)	0.02	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

Project Characteristics - RPS 2023 47.7%

Land Use - 9.06 acres

Construction Phase - CS

Vehicle Trips - Trips based on Traffic Study. VMT/trip 5.55 per EMFAC

Woodstoves - MF no hearth options

SF has NG hearth options only

Energy Use -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Waste Mitigation -

Landscape Equipment -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	12.75	0.00
tblFireplaces	NumberGas	1.70	2.00
tblFireplaces	NumberNoFireplace	1.50	15.00
tblFireplaces	NumberNoFireplace	0.20	0.00
tblFireplaces	NumberWood	0.75	0.00
tblFireplaces	NumberWood	0.10	0.00
tblLandUse	LotAcreage	0.89	4.88
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	441.03
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	ST_TR	6.39	5.44
tblVehicleTrips	ST_TR	722.03	470.95
tblVehicleTrips	ST_TR	82.52	18.99
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.44

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

tblVehicleTrips	SU_TR	542.72	470.95
tblVehicleTrips	SU_TR	68.65	18.99
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	496.12	470.95
tblVehicleTrips	WD_TR	51.29	18.99
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	0.75	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.75	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00

2.0 Emissions Summary

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Energy	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
Mobile	5.8359	36.8663	40.7032	0.1476	9.2467	0.0907	9.3374	2.4742	0.0845	2.5587		15,166.4367	15,166.4367	1.1962		15,196.3426
Total	8.0383	37.5077	42.6217	0.1514	9.2467	0.1466	9.3933	2.4742	0.1404	2.6146	0.0000	15,926.9714	15,926.9714	1.2134	0.0139	15,961.4468

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Energy	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
Mobile	5.8359	36.8663	40.7032	0.1476	9.2467	0.0907	9.3374	2.4742	0.0845	2.5587		15,166.4367	15,166.4367	1.1962		15,196.3426
Total	8.0383	37.5077	42.6217	0.1514	9.2467	0.1466	9.3933	2.4742	0.1404	2.6146	0.0000	15,926.9714	15,926.9714	1.2134	0.0139	15,961.4468

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	12/30/2022	5	230	
4	Paving	Paving	12/31/2022	1/27/2023	5	20	
5	Architectural Coating	Architectural Coating	1/28/2023	2/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.35

Residential Indoor: 37,665; Residential Outdoor: 12,555; Non-Residential Indoor: 110,280; Non-Residential Outdoor: 36,760; Striped Parking Area: 6,264 (Architectural Coating – sqft)

OffRoad Equipment

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	80.00	31.00	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
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	18.0663	1.6126	19.6788	9.9307	1.4836	11.4143		3,686.0619	3,686.0619	1.1922		3,715.8655

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0534	0.5606	1.7100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		170.3063	170.3063	4.4100e-003		170.4166
Total	0.0858	0.0534	0.5606	1.7100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		170.3063	170.3063	4.4100e-003		170.4166

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.1298	0.0000	8.1298	4.4688	0.0000	4.4688			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.1298	1.6126	9.7424	4.4688	1.4836	5.9524	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0534	0.5606	1.7100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		170.3063	170.3063	4.4100e-003		170.4166
Total	0.0858	0.0534	0.5606	1.7100e-003	0.2012	1.2500e-003	0.2025	0.0534	1.1500e-003	0.0545		170.3063	170.3063	4.4100e-003		170.4166

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656		2,872.0464	2,872.0464	0.9289		2,895.2684
Total	1.9486	20.8551	15.2727	0.0297	6.5523	0.9409	7.4932	3.3675	0.8656	4.2331		2,872.0464	2,872.0464	0.9289		2,895.2684

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139
Total	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.9486	20.8551	15.2727	0.0297		0.9409	0.9409		0.8656	0.8656	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4
Total	1.9486	20.8551	15.2727	0.0297	2.9486	0.9409	3.8894	1.5154	0.8656	2.3810	0.0000	2,872.046 4	2,872.046 4	0.9289		2,895.268 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139
Total	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

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	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0794	2.8020	0.6109	7.9700e-003	0.1985	4.4300e-003	0.2030	0.0572	4.2400e-003	0.0614		840.8944	840.8944	0.0598		842.3881
Worker	0.3814	0.2375	2.4914	7.6000e-003	0.8942	5.5500e-003	0.8998	0.2372	5.1100e-003	0.2423		756.9168	756.9168	0.0196		757.4072
Total	0.4608	3.0395	3.1022	0.0156	1.0928	9.9800e-003	1.1027	0.2943	9.3500e-003	0.3037		1,597.8112	1,597.8112	0.0794		1,599.7953

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.4 Building Construction - 2022

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0794	2.8020	0.6109	7.9700e-003	0.1985	4.4300e-003	0.2030	0.0572	4.2400e-003	0.0614		840.8944	840.8944	0.0598		842.3881
Worker	0.3814	0.2375	2.4914	7.6000e-003	0.8942	5.5500e-003	0.8998	0.2372	5.1100e-003	0.2423		756.9168	756.9168	0.0196		757.4072
Total	0.4608	3.0395	3.1022	0.0156	1.0928	9.9800e-003	1.1027	0.2943	9.3500e-003	0.3037		1,597.8112	1,597.8112	0.0794		1,599.7953

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

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	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4107	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139
Total	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.5 Paving - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.4107	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.660 3	2,207.660 3	0.7140		2,225.510 4

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139
Total	0.0715	0.0445	0.4671	1.4200e-003	0.1677	1.0400e-003	0.1687	0.0445	9.6000e-004	0.0454		141.9219	141.9219	3.6800e-003		142.0139

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3406	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694		2,207.5841	2,207.5841	0.7140		2,225.4336

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0671	0.0401	0.4283	1.3700e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		136.5950	136.5950	3.3000e-003		136.6774
Total	0.0671	0.0401	0.4283	1.3700e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		136.5950	136.5950	3.3000e-003		136.6774

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0327	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336
Paving	0.3079					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.3406	10.1917	14.5842	0.0228		0.5102	0.5102		0.4694	0.4694	0.0000	2,207.5841	2,207.5841	0.7140		2,225.4336

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0671	0.0401	0.4283	1.3700e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		136.5950	136.5950	3.3000e-003		136.6774
Total	0.0671	0.0401	0.4283	1.3700e-003	0.1677	1.0100e-003	0.1687	0.0445	9.3000e-004	0.0454		136.5950	136.5950	3.3000e-003		136.6774

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.3474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690
Total	41.5391	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708		281.4481	281.4481	0.0168		281.8690

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0716	0.0428	0.4568	1.4600e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		145.7014	145.7014	3.5200e-003		145.7893
Total	0.0716	0.0428	0.4568	1.4600e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		145.7014	145.7014	3.5200e-003		145.7893

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.3474					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1917	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690
Total	41.5391	1.3030	1.8111	2.9700e-003		0.0708	0.0708		0.0708	0.0708	0.0000	281.4481	281.4481	0.0168		281.8690

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0716	0.0428	0.4568	1.4600e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		145.7014	145.7014	3.5200e-003		145.7893
Total	0.0716	0.0428	0.4568	1.4600e-003	0.1788	1.0800e-003	0.1799	0.0474	9.9000e-004	0.0484		145.7014	145.7014	3.5200e-003		145.7893

4.0 Operational Detail - Mobile

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.8359	36.8663	40.7032	0.1476	9.2467	0.0907	9.3374	2.4742	0.0845	2.5587		15,166.4367	15,166.4367	1.1962		15,196.3426
Unmitigated	5.8359	36.8663	40.7032	0.1476	9.2467	0.0907	9.3374	2.4742	0.0845	2.5587		15,166.4367	15,166.4367	1.1962		15,196.3426

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	81.60	81.60	81.60	146,392	146,392
Fast Food Restaurant with Drive Thru	3,080.01	3,080.01	3080.01	2,187,174	2,187,174
Hardware/Paint Store	739.47	739.47	739.47	787,550	787,550
Parking Lot	0.00	0.00	0.00		
Single Family Housing	18.88	18.88	18.88	33,871	33,871
Strip Mall	1,058.51	1,058.51	1058.51	1,181,901	1,181,901
Total	4,978.47	4,978.47	4,978.47	4,336,888	4,336,888

4.3 Trip Type Information

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Fast Food Restaurant with Drive	5.55	5.55	5.55	2.20	78.80	19.00	29	21	50
Hardware/Paint Store	5.55	5.55	5.55	13.60	67.40	19.00	45	29	26
Parking Lot	5.55	5.55	5.55	0.00	0.00	0.00	0	0	0
Single Family Housing	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Strip Mall	5.55	5.55	5.55	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Fast Food Restaurant with Drive Thru	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Hardware/Paint Store	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Parking Lot	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Single Family Housing	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Strip Mall	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355
NaturalGas Unmitigated	0.0656	0.5918	0.4675	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5831	715.5831	0.0137	0.0131	719.8355

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	607.976	6.5600e-003	0.0560	0.0238	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003		71.5266	71.5266	1.3700e-003	1.3100e-003	71.9516
Fast Food Restaurant with Drive Thru	4899.45	0.0528	0.4803	0.4035	2.8800e-003		0.0365	0.0365		0.0365	0.0365		576.4054	576.4054	0.0111	0.0106	579.8306
Hardware/Paint Store	236.841	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003		27.8636	27.8636	5.3000e-004	5.1000e-004	28.0292
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
Single Family Housing	167.65	1.8100e-003	0.0155	6.5700e-003	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003		19.7236	19.7236	3.8000e-004	3.6000e-004	19.8408
Strip Mall	170.545	1.8400e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003		20.0641	20.0641	3.8000e-004	3.7000e-004	20.1833
Total		0.0656	0.5918	0.4674	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5832	715.5832	0.0137	0.0131	719.8355

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0.607976	6.5600e-003	0.0560	0.0238	3.6000e-004		4.5300e-003	4.5300e-003		4.5300e-003	4.5300e-003		71.5266	71.5266	1.3700e-003	1.3100e-003	71.9516
Fast Food Restaurant with Drive Thru	4.89945	0.0528	0.4803	0.4035	2.8800e-003		0.0365	0.0365		0.0365	0.0365		576.4054	576.4054	0.0111	0.0106	579.8306
Hardware/Paint Store	0.236841	2.5500e-003	0.0232	0.0195	1.4000e-004		1.7600e-003	1.7600e-003		1.7600e-003	1.7600e-003		27.8636	27.8636	5.3000e-004	5.1000e-004	28.0292
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
Single Family Housing	0.16765	1.8100e-003	0.0155	6.5700e-003	1.0000e-004		1.2500e-003	1.2500e-003		1.2500e-003	1.2500e-003		19.7236	19.7236	3.8000e-004	3.6000e-004	19.8408
Strip Mall	0.170545	1.8400e-003	0.0167	0.0140	1.0000e-004		1.2700e-003	1.2700e-003		1.2700e-003	1.2700e-003		20.0641	20.0641	3.8000e-004	3.7000e-004	20.1833
Total		0.0656	0.5918	0.4674	3.5800e-003		0.0453	0.0453		0.0453	0.0453		715.5832	715.5832	0.0137	0.0131	719.8355

6.0 Area Detail

6.1 Mitigation Measures Area

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687
Unmitigated	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.8800e-003	0.0332	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	42.3529	42.3529	8.1000e-004	7.8000e-004	42.6046
Landscaping	0.0454	0.0165	1.4370	8.0000e-005		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		2.5986	2.5986	2.6200e-003		2.6641
Total	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2266					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.8610					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	3.8800e-003	0.0332	0.0141	2.1000e-004		2.6800e-003	2.6800e-003		2.6800e-003	2.6800e-003	0.0000	42.3529	42.3529	8.1000e-004	7.8000e-004	42.6046
Landscaping	0.0454	0.0165	1.4370	8.0000e-005		7.8900e-003	7.8900e-003		7.8900e-003	7.8900e-003		2.5986	2.5986	2.6200e-003		2.6641
Total	2.1368	0.0497	1.4511	2.9000e-004		0.0106	0.0106		0.0106	0.0106	0.0000	44.9515	44.9515	3.4300e-003	7.8000e-004	45.2687

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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Highland Commercial Tractor Supply - San Bernardino-South Coast County, Winter

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

Highland Commercial Tractor Supply
San Bernardino-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Parking Lot	261.00	Space	2.35	104,400.00	0
Fast Food Restaurant with Drive Thru	6.54	1000sqft	0.15	6,540.00	0
Apartments Mid Rise	15.00	Dwelling Unit	0.39	15,000.00	43
Single Family Housing	2.00	Dwelling Unit	0.65	3,600.00	6
Hardware/Paint Store	38.94	1000sqft	4.88	38,940.00	0
Strip Mall	28.04	1000sqft	0.64	28,040.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	441.03	CH4 Intensity (lb/MW hr)	0.02	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

Project Characteristics - RPS 2023 47.7%

Land Use - 9.06 acres

Construction Phase - CS

Vehicle Trips - Trips based on Traffic Study. VMT/trip 5.55 per EMFAC

Woodstoves - MF no hearth options

SF has NG hearth options only

Energy Use -

Construction Off-road Equipment Mitigation -

Water Mitigation -

Waste Mitigation -

Landscape Equipment -

Energy Mitigation -

Table Name	Column Name	Default Value	New Value
tblFireplaces	NumberGas	12.75	0.00
tblFireplaces	NumberGas	1.70	2.00
tblFireplaces	NumberNoFireplace	1.50	15.00
tblFireplaces	NumberNoFireplace	0.20	0.00
tblFireplaces	NumberWood	0.75	0.00
tblFireplaces	NumberWood	0.10	0.00
tblLandUse	LotAcreage	0.89	4.88
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.02
tblProjectCharacteristics	CO2IntensityFactor	702.44	441.03
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CC_TL	8.40	5.55

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tblVehicleTrips	CC_TL	8.40	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CNW_TL	6.90	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	CW_TL	16.60	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TL	8.70	5.55
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TL	5.90	5.55
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HS_TTP	19.20	19.00
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TL	14.70	5.55
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	HW_TTP	40.20	41.00
tblVehicleTrips	ST_TR	6.39	5.44
tblVehicleTrips	ST_TR	722.03	470.95
tblVehicleTrips	ST_TR	82.52	18.99
tblVehicleTrips	ST_TR	9.91	9.44
tblVehicleTrips	ST_TR	42.04	37.75
tblVehicleTrips	SU_TR	5.86	5.44

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tblVehicleTrips	SU_TR	542.72	470.95
tblVehicleTrips	SU_TR	68.65	18.99
tblVehicleTrips	SU_TR	8.62	9.44
tblVehicleTrips	SU_TR	20.43	37.75
tblVehicleTrips	WD_TR	6.65	5.44
tblVehicleTrips	WD_TR	496.12	470.95
tblVehicleTrips	WD_TR	51.29	18.99
tblVehicleTrips	WD_TR	9.52	9.44
tblVehicleTrips	WD_TR	44.32	37.75
tblWoodstoves	NumberCatalytic	0.75	0.00
tblWoodstoves	NumberCatalytic	0.10	0.00
tblWoodstoves	NumberNoncatalytic	0.75	0.00
tblWoodstoves	NumberNoncatalytic	0.10	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-2-2022	4-1-2022	0.7626	0.7626
2	4-2-2022	7-1-2022	0.6772	0.6772
3	7-2-2022	10-1-2022	0.6847	0.6847
4	10-2-2022	1-1-2023	0.6780	0.6780
5	1-2-2023	4-1-2023	0.5376	0.5376
		Highest	0.7626	0.7626

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852
Energy	0.0120	0.1080	0.0853	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	374.3271	374.3271	0.0139	4.4900e-003	376.0127
Mobile	1.0213	6.8441	7.5199	0.0278	1.6515	0.0163	1.6678	0.4426	0.0152	0.4578	0.0000	2,589.7421	2,589.7421	0.1897	0.0000	2,594.4851
Waste						0.0000	0.0000		0.0000	0.0000	110.8209	0.0000	110.8209	6.5493	0.0000	274.5541
Water						0.0000	0.0000		0.0000	0.0000	2.5552	29.5715	32.1267	0.2638	6.4700e-003	40.6479
Total	1.4200	6.9546	7.7850	0.0284	1.6515	0.0256	1.6771	0.4426	0.0245	0.4671	113.3761	2,994.4155	3,107.7916	7.0170	0.0110	3,286.4849

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852
Energy	0.0120	0.1080	0.0853	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	303.8204	303.8204	0.0107	3.8500e-003	305.2355
Mobile	1.0213	6.8441	7.5199	0.0278	1.6515	0.0163	1.6678	0.4426	0.0152	0.4578	0.0000	2,589.742 1	2,589.742 1	0.1897	0.0000	2,594.485 1
Waste						0.0000	0.0000		0.0000	0.0000	27.7052	0.0000	27.7052	1.6373	0.0000	68.6385
Water						0.0000	0.0000		0.0000	0.0000	2.0442	23.6572	25.7013	0.2110	5.1700e-003	32.5183
Total	1.4200	6.9546	7.7850	0.0284	1.6515	0.0256	1.6771	0.4426	0.0245	0.4671	29.7494	2,917.994 6	2,947.744 0	2.0491	9.0300e-003	3,001.662 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	73.76	2.55	5.15	70.80	17.68	8.67

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2022	1/14/2022	5	10	
2	Grading	Grading	1/15/2022	2/11/2022	5	20	
3	Building Construction	Building Construction	2/12/2022	12/30/2022	5	230	
4	Paving	Paving	12/31/2022	1/27/2023	5	20	
5	Architectural Coating	Architectural Coating	1/28/2023	2/24/2023	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 2.35

Residential Indoor: 37,665; Residential Outdoor: 12,555; Non-Residential Indoor: 110,280; Non-Residential Outdoor: 36,760; Striped Parking Area: 6,264 (Architectural Coating – sqft)

OffRoad Equipment

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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	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	80.00	31.00	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
Architectural Coating	1	16.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

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Water Exposed Area

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0903	8.0600e-003	0.0984	0.0497	7.4200e-003	0.0571	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7894	0.7894	2.0000e-005	0.0000	0.7899
Total	3.9000e-004	2.8000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7894	0.7894	2.0000e-005	0.0000	0.7899

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3.2 Site Preparation - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0407	0.0000	0.0407	0.0223	0.0000	0.0223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	0.0159	0.1654	0.0985	1.9000e-004	0.0407	8.0600e-003	0.0487	0.0223	7.4200e-003	0.0298	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.9000e-004	2.8000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7894	0.7894	2.0000e-005	0.0000	0.7899
Total	3.9000e-004	2.8000e-004	2.9400e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.7894	0.7894	2.0000e-005	0.0000	0.7899

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3.3 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0655	0.0000	0.0655	0.0337	0.0000	0.0337	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0655	9.4100e-003	0.0749	0.0337	8.6600e-003	0.0423	0.0000	26.0548	26.0548	8.4300e-003	0.0000	26.2654

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	6.5000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3157	1.3157	3.0000e-005	0.0000	1.3165
Total	6.5000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3157	1.3157	3.0000e-005	0.0000	1.3165

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3.3 Grading - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0295	0.0000	0.0295	0.0152	0.0000	0.0152	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0195	0.2086	0.1527	3.0000e-004		9.4100e-003	9.4100e-003		8.6600e-003	8.6600e-003	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654
Total	0.0195	0.2086	0.1527	3.0000e-004	0.0295	9.4100e-003	0.0389	0.0152	8.6600e-003	0.0238	0.0000	26.0547	26.0547	8.4300e-003	0.0000	26.2654

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	6.5000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3157	1.3157	3.0000e-005	0.0000	1.3165
Total	6.5000e-004	4.7000e-004	4.9000e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3157	1.3157	3.0000e-005	0.0000	1.3165

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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	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4840	266.4840	0.0638	0.0000	268.0801
Total	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4840	266.4840	0.0638	0.0000	268.0801

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	8.8100e-003	0.3285	0.0653	9.4000e-004	0.0225	5.0000e-004	0.0230	6.4900e-003	4.8000e-004	6.9700e-003	0.0000	89.8004	89.8004	5.8900e-003	0.0000	89.9477
Worker	0.0396	0.0288	0.3006	8.9000e-004	0.1009	6.4000e-004	0.1015	0.0268	5.9000e-004	0.0274	0.0000	80.6945	80.6945	2.1000e-003	0.0000	80.7470
Total	0.0484	0.3573	0.3660	1.8300e-003	0.1234	1.1400e-003	0.1245	0.0333	1.0700e-003	0.0344	0.0000	170.4949	170.4949	7.9900e-003	0.0000	170.6947

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3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4837	266.4837	0.0638	0.0000	268.0798
Total	0.1962	1.7958	1.8818	3.1000e-003		0.0930	0.0930		0.0875	0.0875	0.0000	266.4837	266.4837	0.0638	0.0000	268.0798

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	8.8100e-003	0.3285	0.0653	9.4000e-004	0.0225	5.0000e-004	0.0230	6.4900e-003	4.8000e-004	6.9700e-003	0.0000	89.8004	89.8004	5.8900e-003	0.0000	89.9477
Worker	0.0396	0.0288	0.3006	8.9000e-004	0.1009	6.4000e-004	0.1015	0.0268	5.9000e-004	0.0274	0.0000	80.6945	80.6945	2.1000e-003	0.0000	80.7470
Total	0.0484	0.3573	0.3660	1.8300e-003	0.1234	1.1400e-003	0.1245	0.0333	1.0700e-003	0.0344	0.0000	170.4949	170.4949	7.9900e-003	0.0000	170.6947

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3.5 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888
Paving	3.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0134	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0269	20.0269	6.4800e-003	0.0000	20.1888

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	6.0000e-004	4.2000e-004	4.4900e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2663	1.2663	3.0000e-005	0.0000	1.2670
Total	6.0000e-004	4.2000e-004	4.4900e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2663	1.2663	3.0000e-005	0.0000	1.2670

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3.5 Paving - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0103	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888
Paving	3.0800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0134	0.1019	0.1458	2.3000e-004		5.1000e-003	5.1000e-003		4.6900e-003	4.6900e-003	0.0000	20.0268	20.0268	6.4800e-003	0.0000	20.1888

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	6.0000e-004	4.2000e-004	4.4900e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2663	1.2663	3.0000e-005	0.0000	1.2670
Total	6.0000e-004	4.2000e-004	4.4900e-003	1.0000e-005	1.6400e-003	1.0000e-005	1.6500e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.2663	1.2663	3.0000e-005	0.0000	1.2670

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3.6 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	0.4154	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571

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	6.5000e-004	4.5000e-004	4.7900e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3507	1.3507	3.0000e-005	0.0000	1.3515
Total	6.5000e-004	4.5000e-004	4.7900e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3507	1.3507	3.0000e-005	0.0000	1.3515

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3.6 Architectural Coating - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4135					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.9200e-003	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571
Total	0.4154	0.0130	0.0181	3.0000e-005		7.1000e-004	7.1000e-004		7.1000e-004	7.1000e-004	0.0000	2.5533	2.5533	1.5000e-004	0.0000	2.5571

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	6.5000e-004	4.5000e-004	4.7900e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3507	1.3507	3.0000e-005	0.0000	1.3515
Total	6.5000e-004	4.5000e-004	4.7900e-003	1.0000e-005	1.7500e-003	1.0000e-005	1.7700e-003	4.7000e-004	1.0000e-005	4.8000e-004	0.0000	1.3507	1.3507	3.0000e-005	0.0000	1.3515

4.0 Operational Detail - Mobile

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

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	1.0213	6.8441	7.5199	0.0278	1.6515	0.0163	1.6678	0.4426	0.0152	0.4578	0.0000	2,589.7421	2,589.7421	0.1897	0.0000	2,594.4851
Unmitigated	1.0213	6.8441	7.5199	0.0278	1.6515	0.0163	1.6678	0.4426	0.0152	0.4578	0.0000	2,589.7421	2,589.7421	0.1897	0.0000	2,594.4851

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	81.60	81.60	81.60	146,392	146,392
Fast Food Restaurant with Drive Thru	3,080.01	3,080.01	3080.01	2,187,174	2,187,174
Hardware/Paint Store	739.47	739.47	739.47	787,550	787,550
Parking Lot	0.00	0.00	0.00		
Single Family Housing	18.88	18.88	18.88	33,871	33,871
Strip Mall	1,058.51	1,058.51	1058.51	1,181,901	1,181,901
Total	4,978.47	4,978.47	4,978.47	4,336,888	4,336,888

4.3 Trip Type Information

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Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Fast Food Restaurant with Drive	5.55	5.55	5.55	2.20	78.80	19.00	29	21	50
Hardware/Paint Store	5.55	5.55	5.55	13.60	67.40	19.00	45	29	26
Parking Lot	5.55	5.55	5.55	0.00	0.00	0.00	0	0	0
Single Family Housing	5.55	5.55	5.55	41.00	19.00	40.00	86	11	3
Strip Mall	5.55	5.55	5.55	16.60	64.40	19.00	45	40	15

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Fast Food Restaurant with Drive Thru	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Hardware/Paint Store	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Parking Lot	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Single Family Housing	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884
Strip Mall	0.555935	0.035798	0.180985	0.113549	0.015175	0.004939	0.018497	0.064736	0.001364	0.001528	0.005807	0.000803	0.000884

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Install High Efficiency Lighting

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

	ROG	NOx	CO	SO2	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	185.3476	185.3476	8.4100e-003	1.6800e-003	186.0587
Electricity Unmitigated							0.0000	0.0000		0.0000	0.0000	0.0000	255.8542	255.8542	0.0116	2.3200e-003	256.8358
NaturalGas Mitigated	0.0120	0.1080	0.0853	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4728	118.4728	2.2700e-003	2.1700e-003	119.1768	
NaturalGas Unmitigated	0.0120	0.1080	0.0853	6.5000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4728	118.4728	2.2700e-003	2.1700e-003	119.1768	

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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					
Apartments Mid Rise	221911	1.2000e-003	0.0102	4.3500e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8420	11.8420	2.3000e-004	2.2000e-004	11.9124
Fast Food Restaurant with Drive Thru	1.7883e+006	9.6400e-003	0.0877	0.0736	5.3000e-004		6.6600e-003	6.6600e-003		6.6600e-003	6.6600e-003	0.0000	95.4304	95.4304	1.8300e-003	1.7500e-003	95.9975
Hardware/Paint Store	86446.8	4.7000e-004	4.2400e-003	3.5600e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6131	4.6131	9.0000e-005	8.0000e-005	4.6405
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
Single Family Housing	61192.3	3.3000e-004	2.8200e-003	1.2000e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2655	3.2655	6.0000e-005	6.0000e-005	3.2849
Strip Mall	62248.8	3.4000e-004	3.0500e-003	2.5600e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3218	3.3218	6.0000e-005	6.0000e-005	3.3416
Total		0.0120	0.1080	0.0853	6.7000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4728	118.4728	2.2700e-003	2.1700e-003	119.1768

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	221911	1.2000e-003	0.0102	4.3500e-003	7.0000e-005		8.3000e-004	8.3000e-004		8.3000e-004	8.3000e-004	0.0000	11.8420	11.8420	2.3000e-004	2.2000e-004	11.9124
Fast Food Restaurant with Drive Thru	1.7883e+006	9.6400e-003	0.0877	0.0736	5.3000e-004		6.6600e-003	6.6600e-003		6.6600e-003	6.6600e-003	0.0000	95.4304	95.4304	1.8300e-003	1.7500e-003	95.9975
Hardware/Paint Store	86446.8	4.7000e-004	4.2400e-003	3.5600e-003	3.0000e-005		3.2000e-004	3.2000e-004		3.2000e-004	3.2000e-004	0.0000	4.6131	4.6131	9.0000e-005	8.0000e-005	4.6405
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
Single Family Housing	61192.3	3.3000e-004	2.8200e-003	1.2000e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.2655	3.2655	6.0000e-005	6.0000e-005	3.2849
Strip Mall	62248.8	3.4000e-004	3.0500e-003	2.5600e-003	2.0000e-005		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	3.3218	3.3218	6.0000e-005	6.0000e-005	3.3416
Total		0.0120	0.1080	0.0853	6.7000e-004		8.2700e-003	8.2700e-003		8.2700e-003	8.2700e-003	0.0000	118.4728	118.4728	2.2700e-003	2.1700e-003	119.1768

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	68515.6	13.7064	6.2000e-004	1.2000e-004	13.7590
Fast Food Restaurant with Drive Thru	310519	62.1187	2.8200e-003	5.6000e-004	62.3570
Hardware/Paint Store	491812	98.3860	4.4600e-003	8.9000e-004	98.7634
Parking Lot	36540	7.3098	3.3000e-004	7.0000e-005	7.3378
Single Family Housing	17433	3.4874	1.6000e-004	3.0000e-005	3.5008
Strip Mall	354145	70.8460	3.2100e-003	6.4000e-004	71.1178
Total		255.8542	0.0116	2.3100e-003	256.8358

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5.3 Energy by Land Use - Electricity**Mitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	60174.5	12.0378	5.5000e-004	1.1000e-004	12.0840
Fast Food Restaurant with Drive Thru	278048	55.6229	2.5200e-003	5.0000e-004	55.8363
Hardware/Paint Store	327972	65.6101	2.9800e-003	6.0000e-004	65.8618
Parking Lot	9135	1.8274	8.0000e-005	2.0000e-005	1.8345
Single Family Housing	15019.7	3.0047	1.4000e-004	3.0000e-005	3.0162
Strip Mall	236167	47.2447	2.1400e-003	4.3000e-004	47.4259
Total		185.3476	8.4100e-003	1.6900e-003	186.0587

6.0 Area Detail**6.1 Mitigation Measures Area**

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	ROG	NOx	CO	SO2	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	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852
Unmitigated	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852

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	0.0414					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3396					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-005	4.1000e-004	1.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4803	0.4803	1.0000e-005	1.0000e-005	0.4831
Landscaping	5.6800e-003	2.0600e-003	0.1796	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2947	0.2947	3.0000e-004	0.0000	0.3021
Total	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0414					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3396					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	5.0000e-005	4.1000e-004	1.8000e-004	0.0000		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	0.4803	0.4803	1.0000e-005	1.0000e-005	0.4831
Landscaping	5.6800e-003	2.0600e-003	0.1796	1.0000e-005		9.9000e-004	9.9000e-004		9.9000e-004	9.9000e-004	0.0000	0.2947	0.2947	3.0000e-004	0.0000	0.3021
Total	0.3867	2.4700e-003	0.1798	1.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.0000	0.7750	0.7750	3.1000e-004	1.0000e-005	0.7852

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	25.7013	0.2110	5.1700e-003	32.5183
Unmitigated	32.1267	0.2638	6.4700e-003	40.6479

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7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.97731 / 0.61613	4.2252	0.0320	7.9000e-004	5.2604
Fast Food Restaurant with Drive Thru	1.98511 / 0.126709	6.0823	0.0649	1.5800e-003	8.1755
Hardware/Paint Store	2.88438 / 1.76785	12.3575	0.0945	2.3200e-003	15.4124
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.130308 / 0.0821507	0.5634	4.2700e-003	1.0000e-004	0.7014
Strip Mall	2.07699 / 1.273	8.8984	0.0681	1.6700e-003	11.0982
Total		32.1267	0.2638	6.4600e-003	40.6479

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.781848 / 0.492904	3.3801	0.0256	6.3000e-004	4.2083
Fast Food Restaurant with Drive Thru	1.58809 / 0.101367	4.8658	0.0520	1.2600e-003	6.5404
Hardware/Paint Store	2.30751 / 1.41428	9.8860	0.0756	1.8600e-003	12.3299
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.104246 / 0.0657206	0.4507	3.4200e-003	8.0000e-005	0.5611
Strip Mall	1.66159 / 1.0184	7.1187	0.0544	1.3400e-003	8.8786
Total		25.7013	0.2110	5.1700e-003	32.5183

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.7052	1.6373	0.0000	68.6385
Unmitigated	110.8209	6.5493	0.0000	274.5541

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	6.9	1.4006	0.0828	0.0000	3.4700
Fast Food Restaurant with Drive Thru	75.33	15.2913	0.9037	0.0000	37.8836
Hardware/Paint Store	431.81	87.6535	5.1802	0.0000	217.1579
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.46	0.4994	0.0295	0.0000	1.2371
Strip Mall	29.44	5.9761	0.3532	0.0000	14.8054
Total		110.8209	6.5493	0.0000	274.5541

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1.725	0.3502	0.0207	0.0000	0.8675
Fast Food Restaurant with Drive Thru	18.8325	3.8228	0.2259	0.0000	9.4709
Hardware/Paint Store	107.953	21.9134	1.2950	0.0000	54.2895
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.615	0.1248	7.3800e-003	0.0000	0.3093
Strip Mall	7.36	1.4940	0.0883	0.0000	3.7014
Total		27.7052	1.6373	0.0000	68.6385

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

Highland Commercial Tractor Supply - San Bernardino-South Coast County, Annual

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

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT B

EMFAC 2014 VMT/Trip (2023)

EMFAC2014 (v1.0.7) Emissions Inventory

Region Type: Air Basin

Region: South Coast

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Trips
South Coas	2023	HHDT	Aggregatec	Aggregatec	GAS	845.2226	107869.2013	16911.21355
South Coas	2023	HHDT	Aggregatec	Aggregatec	DSL	89548.02	12924496.33	0
South Coas	2023	LDA	Aggregatec	Aggregatec	GAS	6264982	209913843.8	39567465.25
South Coas	2023	LDA	Aggregatec	Aggregatec	DSL	68231.28	2395771.457	427576.5978
South Coas	2023	LDA	Aggregatec	Aggregatec	ELEC	309061	13422075.82	2011962.526
South Coas	2023	LDT1	Aggregatec	Aggregatec	GAS	524963.8	17443322.44	3198449.417
South Coas	2023	LDT1	Aggregatec	Aggregatec	DSL	566.9173	15079.56095	2949.350952
South Coas	2023	LDT1	Aggregatec	Aggregatec	ELEC	344.4233	10618.35479	2076.608731
South Coas	2023	LDT2	Aggregatec	Aggregatec	GAS	2280873	82643235.78	14458786.03
South Coas	2023	LDT2	Aggregatec	Aggregatec	DSL	4457.653	169032.7022	28615.43743
South Coas	2023	LHDT1	Aggregatec	Aggregatec	GAS	101835.8	2836538.916	1517202.381
South Coas	2023	LHDT1	Aggregatec	Aggregatec	DSL	96131.44	3321303.353	1209212.561
South Coas	2023	LHDT2	Aggregatec	Aggregatec	GAS	23131.97	792817.5726	344631.9309
South Coas	2023	LHDT2	Aggregatec	Aggregatec	DSL	42055.05	1595083.718	528999.5832
South Coas	2023	MCY	Aggregatec	Aggregatec	GAS	308501.6	1969480.034	616941.5939
South Coas	2023	MDV	Aggregatec	Aggregatec	GAS	1435218	46739844.42	8932873.614
South Coas	2023	MDV	Aggregatec	Aggregatec	DSL	27835.22	1018901.6	178160.7584
South Coas	2023	MH	Aggregatec	Aggregatec	GAS	34406.25	277627.0723	3442.001487
South Coas	2023	MH	Aggregatec	Aggregatec	DSL	9347.503	77260.38527	934.7502709
South Coas	2023	MHDT	Aggregatec	Aggregatec	GAS	19258.5	928087.5087	385324.0418
South Coas	2023	MHDT	Aggregatec	Aggregatec	DSL	141128.4	7930885.451	0
South Coas	2023	OBUS	Aggregatec	Aggregatec	GAS	8907.143	391252.705	178214.1228
South Coas	2023	OBUS	Aggregatec	Aggregatec	DSL	5611.089	470678.6888	0
South Coas	2023	SBUS	Aggregatec	Aggregatec	GAS	2552.006	93077.74203	10208.026
South Coas	2023	SBUS	Aggregatec	Aggregatec	DSL	5195.767	196760.975	0
South Coas	2023	UBUS	Aggregatec	Aggregatec	GAS	2458.623	269036.4331	9834.492986
South Coas	2023	UBUS	Aggregatec	Aggregatec	DSL	4123.342	453343.6808	16493.36771
Total							408407325.7	73647265.66
VMT/Trip								5.55

ATTACHMENT C

AERMOD Construction LST 1hr NOX

** BREEZE AERMOD
** Trinity Consultants
** VERSION 9.0

CO STARTING
CO TITLEONE Highland Tractor Supply 1hr NOX LST
CO MODELOPT DEFAULT CONC NODRYDPLT NOWETDPLT
CO RUNORNOT RUN
CO AVERTIME 1
CO POLLUTID NOX
CO FINISHED

SO STARTING
SO ELEVUNIT METERS
SO LOCATION TT3Y0001 AREAPOLY 481142.5 3775777 0
** SRCDESCR Construction Area
SO SRCPARAM TT3Y0001 1.56E-06 3 15 1
SO AREAVERT TT3Y0001 481142.5 3775777 481141.2 3775640.9 481134.9 3775634.6 480924.5 3775632.3
SO AREAVERT TT3Y0001 480924.2 3775727.5 480877.6 3775727.1 480878.6 3775790.2 480915.9 3775789.9
SO AREAVERT TT3Y0001 480914.9 3775801.1 480909.3 3775803.1 480905.7 3775807.4 480905.3 3775810.7
SO AREAVERT TT3Y0001 480948.9 3775810.4 480948.3 3775778 481142.5 3775777
SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE ELEVUNIT METERS
RE GRIDCART TT3Y00A7 STA
RE GRIDCART TT3Y00A7 XYINC 480664.6 21 36.0 3776046.7 21 -36.0
RE GRIDCART TT3Y00A7 ELEV 1 0
RE GRIDCART TT3Y00A7 ELEV 2 0
RE GRIDCART TT3Y00A7 ELEV 3 0
RE GRIDCART TT3Y00A7 ELEV 4 0
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RE GRIDCART TT3Y00A7 HILL 19 0
RE GRIDCART TT3Y00A7 HILL 20
RE GRIDCART TT3Y00A7 HILL 21 0
RE GRIDCART TT3Y00A7 END
RE FINISHED

ME STARTING
ME SURFFILE "C:\Users\ryan.DESKTOP-5P6B2VB\OneDrive\LDN One Drive 2\City of Highland\21-04 Highland\AERMOD\FONT_v9.SFC"
** SURFFILE "C:\Users\ryan.DESKTOP-5P6B2VB\OneDrive\LDN One Drive 2\City of Highland\21-04 Highland\AERMOD\FONT_v9.SFC"
ME PROFFILE "C:\Users\ryan.DESKTOP-5P6B2VB\OneDrive\LDN One Drive 2\City of Highland\21-04 Highland\AERMOD\FONT_v9.PFL"
** PROFFILE "C:\Users\ryan.DESKTOP-5P6B2VB\OneDrive\LDN One Drive 2\City of Highland\21-04 Highland\AERMOD\FONT_v9.PFL"
ME SURFDATA 3102 2011
ME UAIRDATA 3190 2011
ME SITEDATA 00099999 2011
ME PROFBASE 0 METERS
ME STARTEND 2016 1 1 1 2016 12 31 24
ME FINISHED

OU STARTING
OU RECTABLE 1 FIRST
OU FILEFORM FIX
OU PLOTFILE 1 ALL FIRST ALL`1`FIRST.plt 10000
OU FINISHED

