PACIFIC EMERALD TRACT 37904 SFR PROJECT
AIR QUALITY AND GREENHOUSE GAS ANALYSIS
City of Perris

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SINGLE FAMILY RESIDENTIAL PROJECT
AIR QUALITY AND GREENHOUSE GAS ANALYSIS
City of Perris, California

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October 27, 2020

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1.0 Introduction

The purpose of this air quality and greenhouse gas (GHG) analysis is to determine whether the estimated criteria air pollutants and greenhouse gas emissions generated from the construction and operation of the proposed Pacific Emerald Tract 37904 Single Family Residential Development Project (hereinafter referred to as project) would cause significant impacts to air resources.

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

1.1 Site Location

The proposed project site is located at the northeast corner of McPherson Road and Mountain Avenue, in the City of Perris, California. The project site is located within the South Coast Air Basin (SCAB), the SCAQMD Hemet/Elsinore General Forecast Area, and the Perris Valley Source Receptor Area (SRA) 24.

The project site is bounded by residential uses to the north, south, east and west and the Apostolic Church to the south.

The project is located in Planning Area – 7 of the City of Perris General Plan Land Use Designation Map and is zoned for R-6000 Single Family Residential in the City of Perris Zoning Map and in the City of Perris General Plan Land Use Designation Map.

The project location map is provided in Exhibit A.

1.2 Project Description

The project proposes to construct and operate 201 dwelling units of age restricted (55+) senior detached housing on an approximately 44.40 acre vacant site. The site plan used for this analysis, provided by PACIFIC COMMUNITY BUILDER, INC., is illustrated in Exhibit B. Table 1 summarizes the proposed project land uses.

Table 1
Land Use Summary

Land Use	Quantity	Metric[1]
Senior Adult Housing – Detached	201	DU
On-Site / Off-Site Street Improvements	417.86	TSF

[1] DU – Dwelling Units
TSF – Total Square Foot

The project is expected to construct approximately 147,283 square feet of half-width public roadway improvements along Mountain Avenue, McPherson Road and David Jones Road and approximately 270,576 square foot of on-site street improvements (paved surfaces) as part of the project. The project site is not expected to require the import or export of earthwork material during construction. The project is also proposing to utilize renewable energy sources to the maximum extent.

Construction of the project is estimated to begin in the year 2021 and last approximately 21 months. Construction activities are expected to consist of site preparation, grading, building construction, paving, and architectural coating. The project is expected to be complete and operational in the year 2022.

1.3 Sensitive Receptors

Sensitive receptors are considered land uses or other types of population groups that are more sensitive to air pollution exposure. Sensitive population groups include children, the elderly, the acutely and chronically ill, and those with cardio-respiratory diseases. For CEQA purposes, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24-hours or longer, such as residences, hospitals, and schools (etc), as described in the Localized Significance Threshold Methodology (SCAQMD 2008a, page 3-2).

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

1.4 Summary of Analysis Results

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

Table 2
CEQA Air Quality Impact Criteria

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

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

Table 3
CEQA GHG Impact Criteria

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

1.5 Recommended Mitigation Measures

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

Construction Mitigation Measures:

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

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

MM-2 Require all construction equipment to have Tier 4 low emission "clean diesel" engines (OEM or retrofit) that include diesel oxidation catalysts and diesel particulate filters that meet the latest CARB best available control technology.

MM-3 Construction equipment shall be maintained in proper tune.

MM-4 All construction vehicles shall be prohibited from excessive idling. Excessive idling is defined as five (5) minutes or longer.

MM-5 Minimize the simultaneous operation of multiple construction equipment units.

MM-6 The use of heavy construction equipment and earthmoving activity should be suspended during Air Alerts when the Air Quality Index reaches the "Unhealthy" level.

MM-7 Establish an electricity supply to the construction site and use electric powered equipment instead of diesel-powered equipment or generators, where feasible.

MM-8 Establish staging areas for the construction equipment that are as distant as possible from adjacent sensitive receptors (residential land uses).

MM-9 Use haul trucks with on-road engines instead of off-road engines for on-site hauling.

MM-10 Utilize zero VOC and low VOC paints and solvents, wherever possible.

MM-11 Prepare and implement a Construction Management Plan which will include the required mitigation measures to be submitted to the City of Perris and followed by construction contractors and personnel.

1.6 Recommended Project Design Features

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

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

DF-2. Implement water conservation strategies, including low flow fixtures and toilets, water efficient irrigation systems, drought tolerant/native landscaping, and reduce the amount of turf.

DF-3. Comply with the mandatory requirements of CalRecycle's residential recycling program and implement zero waste strategies.

DF-4. Provide the necessary infrastructure to support electric vehicle charging, as required by CALGreen.

DF-5. Use electric powered landscaping equipment for landscape maintenance.

DF-6. Utilize renewable energy sources, such as solar, to the maximum extent required under Title 24.

2.0 Air Quality Setting

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

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

2.1 Description of Air Pollutants[1].

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

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

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

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

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

- **Ozone (O_3)** is one of a number of substances called photochemical oxidants that are formed when volatile organic compounds (VOC) and NO_x react in the presence of ultraviolet sunlight. O_3 concentrations in the South Coast basin are typically among the highest in the nation, and the damaging effects of photochemical smog, which is a popular name for a number of oxidants in combination, are generally related to the concentrations of O_3. Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the subgroups most susceptible to O_3 effects. Short-term exposures (lasting for a few hours) to O_3 at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. The South Coast Air Basin is designated by the USEPA as an extreme non-attainment area for ozone. Although O_3 concentrations have declined substantially since the early 1990s, the South Coast basin continues to have peak O_3 levels that exceed both state and federal standards.

- **Fine Particulate Matter (PM_{10})** consists of extremely small suspended particles or droplets 10 microns or smaller in diameter that can lodge in the lungs, contributing to respiratory problems. PM_{10} arises from such sources as re-entrained road dust, diesel soot, combustion products, tire and brake abrasion, construction operations, and fires. It is also formed in the atmosphere from NO_x and SO_2 reactions with ammonia. PM_{10} scatters light and significantly reduces visibility. Inhalable particulates

pose a serious health hazard, alone or in combination with other pollutants. More than half of the smallest particles inhaled will be deposited in the lungs and can cause permanent lung damage. Inhalable particulates can also have a damaging effect on health by interfering with the body's mechanism for clearing the respiratory tract or by acting as a carrier of an absorbed toxic substance. The South Coast basin has recently achieved federal attainment status for PM_{10}, but is non-attainment based on state requirements.

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

- **Sulfur dioxide (SO_2)** is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and difficulty in breathing for children. Individuals with asthma may experience constriction of airways with exposure to SO_2. Though SO_2 concentrations have been reduced to levels well below state and federal standards, further reductions in SO_2 emissions are needed because SO_2 is a precursor to sulfate and PM_{10}. The South Coast basin is considered a SO_2 attainment area by USEPA and CARB.

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

does not analyze lead emissions from the project, as it is not expected to emit lead in any significant measurable quantity.

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

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

2.2 Federal and State Ambient Air Quality Standards

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

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

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

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

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

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

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

[3] Secondary standards

Several pollutants listed in Table 4 are not addressed in this analysis. Lead is not included because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

2.3 Attainment Status

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

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

When a state submits a request to the EPA to re-designate a nonattainment area to attainment, the Clean Air Act (CAA) section 175A(a) requires that the state (or states, if the area is a multi-state area) submit a maintenance plan ensuring the area can maintain the air quality standard for which the area is to be re-designated for at least 10 years following the effective date of re-designation. Table 5 lists the attainment status for the criteria pollutants in the South Coast Air Basin (SCAB).

Table 5
South Coast Air Basin Attainment Status[1]

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

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

2.4 South Coast Air Quality Management District (SCAQMD)

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

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

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

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

SCAQMD Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

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

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

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

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

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

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

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

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

2.5 South Coast Air Basin

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

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

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

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

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

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

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

2.6 Local Climate and Meteorology

The weather station closest to the project site is a National Weather Service Cooperative weather station located at Perris station, (046816). Climatological data from the National Weather Service at this station is summarized in Table 6.

Table 6
Meteorological Summary[1]

Month	Average Temperature (°F)			Mean Precipitation (inches)
	Max.	Min.	Mean	
January	65.3	34.7	50.0	1.63
February	68.1	37.5	52.8	1.93
March	68.3	38.9	53.6	1.29
Total	74.2	41.6	57.9	1.04
May	79.6	47.5	63.5	0.16
June	85.3	51.7	68.5	0.06
July	96.7	57.4	77.1	0.33
August	96.9	58.7	77.8	0.06
September	90.8	53.2	72.0	0.35
October	82.5	47.1	64.8	0.14
November	72.0	40.5	56.2	1.97
December	64.5	34.9	49.7	1.45
Annual	**78.7**	**45.3**	**62.0**	**10.42**

[1] Source: Western Regional Climate Center 2016-2019. Averages derived from measurements recorded between 1961 and 1973 at Perris Station, (046816).

2.7 Local Air Quality

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

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

The project is located within the Hemet/Elsinore general forecasting area and Perris Valley air monitoring area (SRA-24).

Table 7 summarizes the published air quality monitoring data from 2016 through 2018, which is the most recent 3-year period available. These pollutant levels were used to comprise a "background" for the project location and existing local air quality. For criteria pollutants not monitored at the Perris Valley station, data from the nearest monitoring station with a comparable setting were used.

Table 7
Local Air Quality

Air Pollutant Location	Averaging Time	Item	2016	2017	2018
Carbon Monoxide -- Lake Elsinore	1 Hour	Max 1-Hour (ppm)	1.7	1.1	1.1
		Exceeded State Standard (20 ppm)	No	No	No
		Exceeded National Standard (35 ppm)	No	No	No
	8 Hour	Max 8 Hour (ppm)	0.6	0.7	0.8
		Exceeded State Standard (9 ppm)	No	No	No
		Exceeded National Standard (9 ppm)	No	No	No
Ozone -- Perris Valley	1 Hour	Max 1-Hour (ppm)	0.131	0.120	0.117
		Days > State Standard (0.09 ppm)	23	33	31
	8 Hour	Max 8 Hour (ppm)	0.098	0.105	0.103
		Days > State Standard (0.07 ppm)	56	80	67
		Days >National Standard (0.070 ppm)	55	80	67
Nitrogen Dioxide -- Lake Elsinore	1 Hour	Max 1-Hour (ppm)	0.0513	0.049	0.0413
		Exceeded State Standard (0.18 ppm)	No	No	No
	Annual	Annual Average (ppm)	0.0081	0.0082	0.0085
		Exceeded >State Standard (0.030 ppm)	No	No	No
		Exceeded >National Standard (0.053 ppm)	No	No	No
Sulfur Dioxide -- Perris Valley	1 Hour	Max 1 Hour (ppm)	--	--	--
		Exceed State Standard (0.25 ppm)	--	--	--
		Exceed National Standard (0.075 ppm)	--	--	--
Coarse Particles (PM10) -- Perris Valley	24 Hour	Max 24-Hour ($\mu g/m^3$)	76	75	64
		Days > State Standard (50 $\mu g/m^3$)	5	11	3
		Days >National Standard (150 $\mu g/m^3$)	0	0	0
	Annual	Annual Average ($\mu g/m^3$)	32.2	32.2	29.7
		Exceeded State Standard (20 $\mu g/m^3$)	Yes	Yes	Yes
Fine Particulates (PM2.5) -- Lake Elsinore	24 Hour	Max 24-Hour ($\mu g/m^3$)	--	--	--
		Days >National Standard (35 $\mu g/m^3$)	--	--	--
	Annual	Annual Average ($\mu g/m^3$)	--	--	--
		Exceeded State Standard (12 $\mu g/m^3$)	--	--	--
		Exceeded National Standard (15 $\mu g/m^3$)	--	--	--

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

3.0 Global Climate Change Setting

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

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

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

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

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

3.1 Greenhouse Gases

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

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

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

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

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

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

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

3.2 GHG Regulatory Setting - International

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

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

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

The Paris Agreement. The Paris agreement is the first comprehensive global climate agreement to be ratified by the United States, United Nations, China, and India; the largest producers of greenhouse gas emissions in the world. The agreement was negotiated by a total of 195 nations and entered into force on November 4, 2016. The central aim is to strengthen the global response to the threat of climate change by keeping the global temperature rise this century well below 2 degrees Celsius compared to pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Additionally, the agreement aims to strengthen the ability of countries to deal with the impacts of climate change. Currently, 122 parties have ratified the agreement. The Trump

administration has recently indicated the United States federal government will no longer participate in the Paris agreement.

3.3 GHG Regulatory Setting – National

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

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

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

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

The EPA and the U.S. Department of Transportation also implemented the first national standards to reduce greenhouse gas emissions and improve the fuel efficiency of medium-

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

Under the direction of the current Trump administration, the NHTSA and EPA propose to amend the Corporate Average Fuel Economy (CAFE) and greenhouse gas emissions standards for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026.

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

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

3.4 GHG Regulatory Setting – State of California

Tables 9 and 10 show the current climate change legislation and executive orders issued in the State of California.

Table 9
California Climate Change Legislation

Date	Legislation	Description
July 26, 2017	Assembly Bill 617 (Christina Garcia, Chapter 136, Statutes of 2017)	Companion to Cap-and-Trade Extension Establishes a groundbreaking program to measure and reduce air pollution from mobile and stationary sources at the neighborhood level in the communities most impacted by air pollutants. Requires the Air Resources Board to work closely with local air districts and communities to establish neighborhood air quality monitoring networks and to develop and implement plans to reduce emissions. The focus on community-based air monitoring and emission reductions will provide a national model for enhanced community protection.
July 25, 2017	Assembly Bill 398 (Eduardo Garcia, Chapter 135, Statutes of 2017)	Cap-and-Trade Extension Extends and improves the Cap and Trade Program, which will enable the state to meet its 2030 emission reduction goals in the most cost-effective manner. Furthermore, extending the Cap and Trade Program will provide billions of dollars in auction proceeds to invest in communities across California.
September 19, 2016	Senate Bill 1383 (Lara, Chapter 395, Statutes of 2016)	Short-lived Climate Pollutants Establishes statewide reduction targets for short-lived climate pollutants.
September 8, 2016	Assembly Bill 197 (Eduardo Garcia, Chapter 250, Statutes of 2016)	**Greenhouse gas regulations** Prioritizes direct emission reductions from large stationary sources and mobile sources.
September 8, 2016	Senate Bill 32 (Pavley, Chapter 249, Statutes of 2016)	**Greenhouse Gas emission reduction target for 2030** Establishes a statewide greenhouse gas (GHG) emission reduction target of 40 percent below 1990 levels by 2030.
October 7, 2015	Senate Bill 350 (De León, Chapter 547, Statutes of 2015)	**Clean Energy and Pollution Reduction Act of 2015** Establishes targets to increase retail sales of renewable electricity to 50 percent by 2030 and double the energy efficiency savings in electricity and natural gas end uses by 2030.
September 21, 2014	Senate Bill 605 (Lara, Chapter 523, Statutes of 2014)	**Short-lived climate pollutants** Requires the State Air Resources Board to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016.

Table 9
California Climate Change Legislation

Date	Legislation	Description
September 21, 2014	Senate Bill 1275 (De León, Chapter 530, Statutes of 2014)	**Charge Ahead California Initiative** Establishes a state goal of 1 million zero-emission and near-zero-emission vehicles in service by 2020. Amends the enhanced fleet modernization program to provide a mobility option. Establishes the Charge Ahead California Initiative requiring planning and reporting on vehicle incentive programs, and increasing access to and benefits from zero-emission vehicles for disadvantaged, low-income, and moderate-income communities and consumers.
September 21, 2014	Senate Bill1204 (Lara, Chapter 524, Statutes of 2014)	**California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program** Creates the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program funded by the Greenhouse Gas Reduction Fund for development, demonstration, precommercial pilot, and early commercial deployment of zero- and near-zero emission truck, bus, and off-road vehicle and equipment technologies, with priority given to projects benefiting disadvantaged communities.
September 28, 2013	Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013)	Alternative fuel and vehicle technologies: funding programs Extends until January 1, 2024, extra fees on vehicle registrations, boat registrations, and tire sales in order to fund the AB 118, Carl Moyer, and AB 923 programs that support the production, distribution, and sale of alternative fuels and vehicle technologies and air emissions reduction efforts. The bill suspends until 2024 ARB's regulation requiring gasoline refiners to provide hydrogen fueling stations and appropriates up to $220 million, of AB 118 money to create a hydrogen fueling infrastructure in the state.
September 28, 2013	Assembly Bill 1092 (Levine, Chapter 410, Statutes of 2013)	Building standards: electric vehicle charging infrastructure Requires the Building Standards Commission to adopt mandatory building standards for the installation of future electric vehicle charging infrastructure for parking spaces in multifamily dwellings and nonresidential development.

Table 9
California Climate Change Legislation

Date	Legislation	Description
September 30, 2012	Senate Bill 535 (De León, Chapter 830, Statutes of 2012)	Greenhouse Gas Reduction Fund and Disadvantaged Communities Requires the California Environmental Protection Agency to identify disadvantaged communities; requires that 25% of all funds allocated pursuant to an investment plan for the use of moneys collected through a cap-and-trade program be allocated to projects that benefit disadvantaged communities and 10 those 25% be use within disadvantaged communities; and requires the Department of Finance to include a description of how these requirements are fulfilled in an annual report.
September 30, 2012	Assembly Bill 1532 (J. Perez, Chapter 807, Statutes of 2012)	Greenhouse Gas Reduction Fund in the Budget Requires the Department of Finance to develop and submit to the Legislature an investment plan every three years for the use of the Greenhouse Gas Reduction Fund; requires revenue collected pursuant to a market-based compliance mechanism to be appropriated in the Annual Budget Act; requires the department to report annually to the Legislature on the status of projects funded; and specifies that findings issued by the Governor related to "linkage" as part of a market-base compliance mechanism are not subject to judicial review.
April 12, 2011	Senate Bill X1-2 (Simitian, Chapter 1, Statutes of 2011)	Governor Edmund G. Brown, Jr. signed Senate Bill X1-2 into law to codify the ambitious 33 percent by 2020 goal. SBX1-2 directs California Public Utilities Commission's Renewable Energy Resources Program to increase the amount of electricity generated from eligible renewable energy resources per year to an amount that equals at least 20% of the total electricity sold to retail customers in California per year by December 31, 2013, 25% by December 31, 2016 and 33% by December 31, 2020. The new RPS goals applies to all electricity retailers in the state including publicly owned utilities (POUs), investor-owned utilities, electricity service providers, and community choice aggregators. This new RPS preempts the California Air Resources Boards' 33 percent Renewable Electricity Standard.
September 29, 2011	Assembly Bill 1504 (Skinner, Chapter 534, Statutes of 2010)	Forest resources and carbon sequestration. Bill requires Department of Forestry and Fire Protection and Air Resources Board to assess the capacity of its forest and rangeland regulations to meet or exceed the state's greenhouse goals, pursuant to AB 32.

Table 9
California Climate Change Legislation

Date	Legislation	Description
September 30, 2008	Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008)	Sustainable Communities & Climate Protection Act of 2008 requires Air Resources Board to develop regional greenhouse gas emission reduction targets for passenger vehicles. ARB is to establish targets for 2020 and 2035 for each region covered by one of the State's 18 metropolitan planning organizations.
October 14, 2007	Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007)	Alternative Fuels and Vehicles Technologies The bill would create the Alternative and Renewable Fuel and Vehicle Technology Program, to be administered by the Energy Commission, to provide funding to public projects to develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies.
August 24, 2007	Senate Bill 97 (Dutton, Chapter 187, Statutes of 2007)	Directs Governor's Office of Planning and Research to develop CEQA guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions."
July 18. 2006	Assembly Bill 1803 (Committee on Budget, Chapter 77, Statutes of 2006)	Greenhouse gas inventory transferred to Air Resources Board from the Energy Commission.
August 21, 2006	Senate Bill 1 (Murray, Chapter 132, Statutes of 2006)	California's Million Solar Roofs plan is enhanced by PUC and CEC's adoption of the California Solar Initiative. SB1 directs PUC and CEC to expand this program to more customers and requiring the state's municipal utilities to create their own solar rebate programs. This bill would require beginning January 1, 2011, a seller of new homes to offer the option of a solar energy system to all customers negotiating to purchase a new home constructed on land meeting certain criteria and to disclose certain information.
September 26, 2006	Senate Bill 107 (Simitian, Chapter 464, Statutes of 2006)	SB 107 directs California Public Utilities Commission's Renewable Energy Resources Program to increase the amount of renewable electricity (Renewable Portfolio Standard) generated per year, from 17% to an amount that equals at least 20% of the total electricity sold to retail customers in California per year by December 31, 2010.

Table 9
California Climate Change Legislation

Date	Legislation	Description
September 27, 2006	Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006)	California Global Warming Solutions Act of 2006. This bill would require Air Resources Board (ARB) to adopt a statewide greenhouse gas emissions limit equivalent to the statewide greenhouse gas emissions levels in 1990 to be achieved by 2020. ARB shall adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program. AB 32 directs Climate Action Team established by the Governor to coordinate the efforts set forth under Executive Order S-3-05 to continue its role in coordinating overall climate policy.
September 12, 2002	Senate Bill 1078 (Sher, Chapter 516, Statutes of 2002)	This bill establishes the California Renewables Portfolio Standard Program, which requires electric utilities and other entities under the jurisdiction of the California Public Utilities Commission to meet 20% of their renewable power by December 31, 2017 for the purposes of increasing the diversity, reliability, public health and environmental benefits of the energy mix.
September 7, 2002	Senate Bill 812 (Sher, Chapter 423, Statutes of 2002)	This bill added forest management practices to the California Climate Action Registry members' reportable emissions actions and directed the Registry to adopt forestry procedures and protocols to monitor, estimate, calculate, report and certify carbon stores and carbon dioxide emissions that resulted from the conservation-based management of forests in California.
July 22, 2002	Assembly Bill 1493 (Pavley, Chapter 200, Statutes of 2002)	The "Pavley" bill requires the registry, in consultation with the State Air Resources Board, to adopt procedures and protocols for the reporting and certification of reductions in greenhouse gas emissions from mobile sources for use by the state board in granting the emission reduction credits. This bill requires the state board to develop and adopt, by January 1, 2005, regulations that achieve the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks.
October 11, 2001	Senate Bill 527 (Sher, Chapter 769, Statutes of 2001)	This bill revises the functions and duties of the California Climate Action Registry and requires the Registry, in coordination with CEC to adopt third-party verification metrics, developing GHG emissions protocols and qualifying third-party organizations to provide technical assistance and certification of emissions baselines and inventories. SB 527 amended SB 1771 to emphasize third-party verification.

Table 9
California Climate Change Legislation

Date	Legislation	Description
September 30, 2000	Senate Bill 1771 (Sher, Chapter 1018, Statutes of 2000)	SB 1771 establishes the creation of the non-profit organization, the California Climate Action Registry and specifies functions and responsibilities to develop a process to identify and qualify third-party organizations approved to provide technical assistance and advice in monitoring greenhouse gas emissions and setting greenhouse gas (GHG) emissions baselines in coordination with CEC. Also, the bill directs the Registry to enable participating entities to voluntarily record their annual GHG emissions inventories. Also, SB 1771 directs CEC to update the state's greenhouse gas inventory from an existing 1998 report and continuing to update it every five years.
September 28, 1988	Assembly Bill 4420 (Sher, Chapter 1506, Statutes of 1988)	The California Energy Commission (CEC) was statutorily directed to prepare and maintain the inventory of greenhouse gas emissions (GHG) and to study the effects of GHGs and the climate change impacts on the state's energy supply and demand, economy, environment, agriculture, and water supplies. The study also required recommendations for avoiding, reducing, and addressing related impacts - and required the CEC to coordinate the study and any research with federal, state, academic, and industry research projects.

[1] Source: http://www.climatechange.ca.gov/state/legislation.html

Table 10
California Climate Change Executive Orders

Date	Governor's Executive Order	Description
July 17, 2015	Executive Order # B-32-15	EO-B-32-15 directs State agencies to develop an integrated freight action plan by July 2016. Among other things, the plan calls for targets for transportation efficiency and a transition to near-zero-emission technologies.
April 29, 2015	Executive Order # B-30-15	EO-B-30-15 sets a greenhouse gas (GHG) emissions target for 2030 at 40 percent below 1990 levels.
April 25, 2012	Executive Order # B-18-12	EO-B-18-12 calls for significant reductions in state agencies' energy purchases and GHG emissions. The Executive Order included a Green Building Action Plan, which provided additional details and specific requirements for the implementation of the Executive Order
March 23, 2012	Executive Order # B-16-12	EO-B-16-12 orders State agencies to facilitate the rapid commercialization of zero-emission vehicles (ZEVs). The Executive Order sets a target for the number of 1.5 million ZEVs in California by 2025. Also, the Executive Order sets as a target for 2050 a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels.
November 14, 2008	Executive Order # S-13-08	EO-S-13-08 directs state agencies to plan for sea level rise and climate impacts through coordination of the state Climate Adaptation Strategy.
January 18, 2007	Executive Order # S-01-07	EO-S-01-07 establishes the 2020 target and Low Carbon Fuel Standard. The EO directs the Secretary of Cal/EPA as coordinator of 2020 target activities and requires the Secretary to report back to the Governor and Legislature biannually on progress toward meeting the 2020 target.
October 18, 2006	Executive Order # S-20-06	EO-S-20-06 establishes responsibilities and roles of the Secretary of Cal/EPA and state agencies in climate change.
April 25, 2006	Executive Order # S-06-06	EO-S-06-06 directs Secretary of Cal/EPA to participate in the Bio-Energy Interagency Working Group and addresses biofuels and bioenergy from renewable resources.
June 1, 2005	Executive Order # S-03-05	EO-S-3-05 establishes greenhouse gas emission reduction targets, creates the Climate Action Team and directs the Secretary of Cal/EPA to coordinate efforts with meeting the targets with the heads of other state agencies. The EO requires the Secretary to report back to the Governor and Legislature biannually on progress toward meeting the GHG targets, GHG impacts to California, Mitigation and Adaptation Plans.
December 14, 2004	Executive Order # S-20-04	EO-S-20-04 (Green Buildings) directs state agencies to reduce energy use in state owned buildings by 20% by 2015 and increase energy efficiency.

[1] Source: http://www.climatechange.ca.gov/state/executive_orders.html

3.5 GHG Emissions Inventory

Table 11 shows the latest GHG emission inventories at the national, state, regional and local levels.

Table 11
GHG Emissions Inventory[1]

United States (2016)[2]	State of California (2016)[3]	SCAG (2008)[4]	County of Riverside (2017)[5]
6,511 $MMTCO_2e$	429 $MMTCO_2e$	230.7 $MMTCO_2e$	0.506 $MMTCO_2e$

[1] $MMTCO_2e$ = Million Metric Tons of Carbon Dioxide Equivalent
[2] https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks
[3] https://www.arb.ca.gov/cc/inventory/data/data.htm
[4] http://www.scag.ca.gov/programs/Pages/GreenhouseGases.aspx
[5] https://planning.rctlma.org/Portals/14/CAP/2019/2019_CAP_Update_Full.pdf

4.0 Modeling Parameters and Assumptions

The California Emissions Estimator Model Version 2016.3.2 (CalEEMod) was used to calculate criteria air pollutants and GHG emissions from the construction and operation of the project. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify criteria air pollutant and GHG emissions.

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

4.1 Construction Assumptions

Construction of the project is assumed to begin in the year 2021 and last approximately 21 months. Construction phases are assumed to consist of site preparation, grading, building construction, paving and architectural coating. The project site is not expected to require the import or export of earthwork material during grading phase. The project is expected to construct approximately 147,283 square feet of half-width roadway improvements along Mountain Avenue, McPherson Road and David Jones Road and approximately 270,576 square feet of on-site street improvements as part of the project.

Construction phases are not expected to overlap.

The project's construction schedule are based on the CalEEMod defaults with an exception of grading phase and building construction phase, which have been adjusted to meet the project's 2022 opening year timeframe.

The CalEEMod default construction equipment list is based on survey data and the size of the site. The parameters used to estimate construction emissions, such as the worker and vendor trips and trip lengths, utilize the CalEEMod defaults. The construction equipment list is shown in Table 12.

The quantity of fugitive dust estimated by CalEEMod is based on the number of equipment used during site preparation and grading. CalEEMod estimates the worst-case fugitive dust

impacts will occur during the grading phase. The maximum daily disturbance footprint would be 4 acres per 8-hour day with all equipment in use.

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

Table 12
Construction Equipment Assumptions Phase [1]

Phase	Equipment	Amount	Hours Per Day	Soil Disturbance Rate (Acres/ 8hr-Day)	Equipment Daily Disturbance Footprint (Acres)	Total Phase Daily Disturbance Footprint (Acres)
Site Preparation	Rubber Tired Dozers	3	8	0.5	1.5	3.5
	Tractors/Loaders/Backhoes	4	8	0.5	2.0	
Grading	Excavators	2	8	0.0	0.0	4.0
	Graders	1	8	0.5	0.5	
	Rubber Tired Dozers	1	8	0.5	0.5	
	Scrapers	2	8	1.0	2.0	
	Tractors/Loaders/Backhoes	2	8	0.5	1.000	
Building Construction	Cranes	1	7	0.0	0.0	1.3
	Forklifts	3	8	0.0	0.0	
	Generator Sets	1	8	0.0	0.0	
	Tractors/Loaders/Backhoes	3	7	0.5	1.3	
	Welders	1	8	0.0	0.0	
Paving	Pavers	2	8	0.0	0.0	1.0
	Paving Equipment	2	8	0.0	0.0	
	Tractors/Loaders/Backhoes	2	8	0.5	1.0	
Architectural Coating	Air Compressors	1	6	0.0	0.0	0.0

[1] CalEEMod Defaults

4.2 Localized Construction Analysis Modeling Parameters

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

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

4.3 Operational Assumptions

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

4.3.1 Mobile Source Emissions

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

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

The trip generation rates for this project are based on the latest version of the ITE Trip Generation Manual 10th Edition.

Trip summary information is shown in Table 13.

Table 13
Trip Generation Rates

Land Use	ITE Code	Units[1]	Daily Trip Rate[2]		
			Weekday	Saturday	Sunday
Senior Adult Housing – Detached	251	DU	4.27	2.73	2.32

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

Operational vehicle trip assumptions include trip lengths, trip type, and diverted/pass-by trips. The CalEEMod default trip assumptions are shown in Table 14.

Table 14
Operational Vehicle Trip Assumptions[1]

Land Use	Residential Trips[2]								
	Trip Length (miles)			Trip Percent (%)			Trip Type (%)		
	H-W	H-S	H-O	H-W	H-S	H-O	Prim.	Divert	Pass-By
Senior Adult Housing – Detached	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

[1] CalEEMod Defaults

[2] Residential Trips:
H-W = Home-Work; H-S = Home-Shopping; H-O = Home-Other.

The Emission Factors (EMFAC) 2014 model is used to estimate the mobile source emissions are embedded in the CalEEMod emissions model. No adjustments have been made to default emission factors.

The project's total vehicle miles traveled is shown in the table 15 for this project.

Table 15
Operational Vehicle Miles Traveled

Land Use	Annual Vehicle Miles Traveled (VMT)
Senior Adult Housing – Detached	2,590,396

[1] CalEEMod Defaults

The operational vehicle fleet mix is shown in Table 16 and is based CalEEMod default.

Table 16
Vehicle Mix for Trips[1]

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

[1] CalEEMod Defaults.

4.3.2 Energy Source Emissions

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

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

end uses, such as appliances, electronics, and other miscellaneous plug-in uses. Because some lighting is not considered as part of the building envelope energy budget, and since a separate mitigation measure is applicable to this end use, CalEEMod makes lighting a separate category.

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

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

Table 17 shows the total annual expected electricity and natural gas usage for the proposed project.

Table 17
Electricity and Natural Gas Usage

Land Use	Electricity Usage[1] (KWhr/yr)[2]	Natural Gas Usage[1] (KBTU/yr)[2]
Senior Adult Housing – Detached	1,015,250	3,130,470

[1] CalEEMod default estimates.

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

4.3.3 Area Source Emissions

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

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

4.3.4 Other Sources of Operational Emissions

Water. Greenhouse gas emissions are generated from the upstream energy required to supply and treat the water used on the project site. Indirect emissions from water usage are counted as part of the project's overall impact. The estimated water usage for the project is reported in Table 18 and recommendations to reduce water usage are discussed in Section 6.0.

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

The estimated waste generation by the project is reported in Table 18 and recommendations to reduce waste generation in landfills are discussed in Section 6.0

Table 18
Operational Water Usage and Waste Generation

Land Use	Water Usage (gallons/year)			Waste Generation (tons/year)[1]
	Indoor	Outdoor	Total	
Senior Adult Housing – Detached	13,095,959	8,256,148	21,352,107	92.46

[1] CalEEMod default estimates.

5.0 Significance Thresholds

5.1 Air Quality Regional Significance Thresholds

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

Table 19 lists the air quality significance thresholds for the six air pollutants analyzed in this report. Lead is not included as part of this analysis as the project is not expected to emit lead in any significant measurable quantity.

Table 19
SCAQMD Regional Significance Thresholds

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

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

5.2 Air Quality Localized Significance Thresholds

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

Table 20 lists the Localized Significance Thresholds (LST) used to determine whether a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard.

LSTs are developed based on the ambient concentrations of four applicable air pollutants for source receptor area (SRA) 24 – Perris Valley.

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

The daily disturbance area is calculated to be 4.0 acres, however LST thresholds are only based on 1, 2 and 5-acre sites. In order to be conservative, a linear progression model was used to estimate the threshold for 4-acre site based on the established LST thresholds.

Table 20
SCAQMD Localized Significance Thresholds[1] (LST)

Pollutant	Construction (lbs/day)	Operational (lbs/day)
NO_X	235.2	235.2
CO	1,341.8	1,341.8
PM_{10}	10.9	3.3
$PM_{2.5}$	6.7	1.7

[1] Source: SCAQMD Mass Rate Localized Significance Thresholds for 4-acre site in SRA-24 at 25 meters

5.3 Microscale CO Concentration Standards

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

Current CO levels in the SCAB are in attainment of both federal and state standards, and local air quality monitoring data indicates there have not been any localized exceedances of CO over the past three years. Therefore, the project must not contribute to an exceedance of a federal or state ambient air quality standard.

5.4 GHG Significance Thresholds

5.4.1 SCAQMD Recommended GHG Thresholds

For quantifiable analysis purposes, the project GHG emissions are also compared to the SCAQMD *Interim CEQA Greenhouse Gas (GHG) Significance Thresholds, December 2008.* The purpose of the SCAQMD thresholds of significance is to assist local agencies with determining the impact of a project for CEQA. SCAQMD's objective in providing the GHG guidelines is to establish a performance standard that will ultimately contribute to reducing GHG emissions below 1990 levels, and thus achieve the requirements of the California Global Warming Solutions Act (AB 32). The SCAQMD has held several GHG Significance Thresholds Stakeholder Working Group meetings where staff has presented updated recommendations that serve in addendum to the interim document.

The SCAQMD describes a five-tiered approach for determining GHG Significance Thresholds.

- **Tier 1 -** If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- **Tier 2 -** If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (i.e., city or county), project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment based on the following tiers.

- **Tier 3 -** Consists of screening values that are intended to capture 90 percent of the GHG emissions from projects. If a project's emissions are under the screening thresholds, then the project is less than significant. SCAQMD has presented two options that lead agencies could choose for screening values. Option #1 sets the thresholds for residential projects to 3,500 $MTCO_2e$/year, commercial projects to 1,400 $MTCO_2e$/year), and the mixed use to 3,000 $MTCO_2e$/year. Option #2 sets a single numerical threshold for all non-industrial projects of 3,000 $MTCO_2e$/year. The current staff recommendation is to use option #2, but allows lead agencies to choose option #1 if they prefer. Regardless of which option a lead agency chooses to follow, it is recommended that the same option is consistently used for all projects.

Table 21 shows the screening levels described in option #2, which has been used previously in the City of Perris.

Table 21
SCAQMD Tier 3 GHG Screening Values

Land Use	Screening Value
Industrial Projects	10,000 $MTCO_2e/Yr$
Residential/Commercial Projects	3,000 $MTCO_2e/Yr$

- **Tier 4 -** includes three performance standard compliance options to demonstrate that a project is not significant for GHG emissions.

  Compliance Option 1 consists of achieving a target percentage reduction in emission compared to the business as usual (BAU) methodology. The project proponent would need to incorporate design features into the project and/or implement GHG mitigation measures to demonstrate a 30 percent reduction in GHG emissions below BAU that is consistent with the current applicable goals of AB 32 in the State of the California.

  Compliance Option 2 consists of early compliance with AB 32 through early implementation of CARB's Scoping Plan Measures. This option is intended for projects in sectors subject to the Scoping Plan Measures.

  Compliance Option 3 consists of establishing efficiency-based performance standards at the plan level (program-level projects such as general plans) and project level. Efficiency standards are based on the amount of GHG emissions ($MTCO_2e$/year) per Service Population (SP). SP is defined as the sum of the residential and employment populations provided by a project.

Table 22
SCAQMD Tier 4 Efficiency Thresholds

Project Type	Efficiency Thresholds[1]	
	Target Year 2020	Target Year 2035
Plan (Program) Level	6.6 $MTCO_2e$/yr/SP	4.1 $MTCO_2e$/yr/SP
Project Level	4.8 $MTCO_2e$/yr/SP	3.0 $MTCO_2e$/yr/SP

- **Tier 5 –** involves implementing off-site mitigation or the purchasing of offsets to reduce GHG emissions to less than the proposed screening level. The project proponent would be required to provide offsets for the life of the project, which is defined as 30 years.

By complying with the SCAQMD GHG thresholds of significance, the project is considered to be in compliance with the applicable State GHG legislation.

6.0 Air Quality Impact Analysis

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

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

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

c) Expose sensitive receptors to substantial pollutant concentrations.

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

6.1 Short Term Air Quality Impacts - Construction

6.1.1 Regional Emissions - Construction

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

As shown in Table 23, regional daily emissions of criteria pollutants are expected to be below the allowable thresholds of significance.

CalEEMod daily emissions outputs are provided in Appendix A.

Table 23
Regional Construction Emissions - Unmitigated

Maximum Daily Emissions (lbs/day)[1]						
Activity	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Site Preparation	3.97	40.55	21.82	0.04	9.16	5.73
Grading	4.29	46.46	31.62	0.06	5.53	3.26
Building Construction	3.63	26.62	29.89	0.08	5.15	2.05
Paving	1.63	11.16	15.09	0.02	0.74	0.57
Architectural Coating	25.47	1.57	4.00	0.01	0.80	0.28
Maximum[1]	25.47	46.46	31.62	0.08	9.16	5.73
SCAQMD Threshold	75	100	550	150	150	55
Exceeds Threshold (?)	**No**	**No**	**No**	**No**	**No**	**No**

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

The project must follow all standard SCAQMD rules and requirements with regards to fugitive dust control, as described in Section 6.1.3. Compliance with the dust control is considered a standard requirement and included as part of the project's design features, not mitigation.

Table 23 shows that, the project's daily construction emissions will be below the applicable SCAQMD regional air quality standards and thresholds of significance. As a result, the project would not contribute substantially to an existing or projected air quality violation.

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

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

6.1.2 Localized Emissions - Construction

Table 24 illustrates the construction related localized emissions and compares the results to SCAQMD LST thresholds.

Table 24
Localized Construction Emissions

Maximum Daily Emissions (lbs/day)[1]				
Activity	**NOx**	**CO**	**PM_{10}**	**$PM_{2.5}$**
On-site Emissions	46.40	30.88	8.95	5.68
SCAQMD Construction Threshold[2]	235.2	1,341.8	10.9	6.7
Exceeds Threshold (?)	**No**	**No**	**No**	**No**

[1] Maximum daily emission during summer or winter; includes on-site project emissions only.
[2] Reference 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation. SRA-24, Perris Valley, 4-acre site, receptor distance 25 meters.

As shown in Table 24, localized daily emissions of criteria pollutants are expected to be below the allowable thresholds of significance. By following the above mitigation measures, **the project's short-term construction impact to localized air resources is less than significant.**

6.1.3 Fugitive Dust - Construction

The Project is required to comply with regional rules that assist in reducing short-term air pollutant emissions associated with suspended particulate matter, also known as fugitive dust. Fugitive dust emissions are commonly associated with land clearing activities, cut-and-fill grading operations, and exposure of soils to the air and wind. SCAQMD Rule 403 requires that fugitive dust is controlled with best-available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rules 402 and 403 require implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site.

Applicable suppression techniques are as follows:

1. All active construction areas shall be watered two (2) times daily.
2. Speed on unpaved roads shall be reduced to less than 15 mph.

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

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

6.1.4 Odors - Construction

Heavy-duty equipment in the project area during construction will emit odors; however, the construction activity would cease to occur after individual construction is completed. The project is required to comply with Rule 402 during construction, which states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. No other sources of objectionable odors have been identified for the proposed Project. **Therefore, the project impact from odor emissions is less than significant.**

6.1.5 Asbestos - Construction

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

Prior to demolition of existing structures, an asbestos evaluation must be completed in accordance with the Asbestos NESHAP regulations. Section 61.145 requires written notification of demolition operations. Asbestos NESHAP demolition/Renovation Notification Form can be downloaded at http://www.arb.ca.gov/enf/asbestosform.pdf.

This notification should be typewritten and postmarked or delivered no later than ten (10) days prior to the beginning of the asbestos demolition or removal activity.

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

6.1.6 Diesel Particulate Matter - Construction

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

As shown in Tables 23 and 24, construction-based particulate matter (PM) emissions (including diesel exhaust emissions) do not exceed regional or local thresholds with the recommended mitigation measures. Given the short-term construction schedule, the

proposed project's construction activity is not expected to be a long-term (i.e., 30 years) substantial source of toxic air contaminant emissions and corresponding individual cancer risk.

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

The project is located adjacent to residential uses surrounding the project site, therefore, in order to ensure the level of DPM exposure is reduced as much as possible, the project shall implement the best available pollution control strategies to minimize potential health risks. The following DPM control measures include:

- Utilize low emission "clean diesel" equipment with new or modified engines (Tier 4 or better) that include diesel oxidation catalysts, diesel particulate filters or Moyer Program retrofits that meet CARB best available control technology.

- Establish staging areas for the construction equipment that are as distant as possible from adjacent sensitive receptors;

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

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

- Provide temporary dust barriers or construct perimeter walls during the first phase of construction.

6.2 Long Term Air Quality Impacts - Operation

6.2.1 Regional Emissions - Operation

Long-term operational air pollutant impacts from the project are shown in Table 25. The project is not expected to exceed any of the allowable daily emissions thresholds for criteria pollutants at the regional level. CalEEMod daily emissions outputs are provided in Appendix A.

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

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

Table 25
Regional Operational Emissions

Maximum Daily Emissions (lbs/day)[1]						
Activity	**VOC**	**NO_x**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	1.61	11.60	19.26	0.08	6.31	1.73
Energy Sources	0.09	0.79	0.34	0.01	0.06	0.06
Area Sources	5.34	3.03	17.85	0.02	0.32	0.32
Total	7.00	15.42	37.44	0.11	6.69	2.11
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold (?)	**No**	**No**	**No**	**No**	**No**	**No**

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

6.2.2 Localized Operational Emissions - Operation

Table 26 shows the localized operational emissions and compares the results to SCAQMD Localized Significance Thresholds (LST) thresholds of significance. As shown in Table 26, the emissions will be below the SCAQMD thresholds of significance for localized

operational emissions. **The project will result in less than significant localized operational emissions impacts.**

Table 26
Localized Operational Emissions

Maximum Daily Emissions (lbs/day)[1]				
LST Pollutants	NOx (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
On-site Emissions[2]	4.40	19.15	0.70	0.47
SCAQMD Operation Threshold[3]	235.2	1,341.8	3.3	1.7
Exceeds Threshold (?)	**No**	**No**	**No**	**No**

[1] Maximum daily emission in summer or winter.
[2] Mobile source emissions include on-site vehicle emissions only. It is estimated that approximately 5% of mobile emissions will occur on the project site.
[3] Reference: 2006-2008 SCAQMD Mass Rate Localized Significant Thresholds for construction and operation Table C-1 through C-6; SRA 24, Perris Valley, disturbance area of 4-acre and receptor distance of 25 meters.

6.2.3 Odors - Operation

Land uses that commonly receive odor complaints include agricultural uses (farming and livestock), chemical plants, composting operations, dairies, fiberglass molding facilities, food processing plants, landfills, refineries, rail yards, and wastewater treatment plants. The proposed project does not contain land uses that would typically be associated with significant odor emissions.

The project will be required to comply with standard building code requirements related to exhaust ventilation, as well as comply with SCAQMD Rule 402. Rule 402 requires that a person may not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Project related odors are not expected to meet the criteria of being a nuisance. **The project's operation would result in less than significant odor impacts.**

6.2.4 Toxic Air Contaminants - Operations

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

6.3 CO Hot Spot Emissions

A CO hot spot is a localized concentration of carbon monoxide (CO) that is above the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. At the time of the publishing of the 1993 CEQA Air Quality Handbook, the SCAB was designated nonattainment, and projects were required to perform hot spot analyses to ensure they did not exacerbate an existing problem. Since this time, the SCAB has achieved attainment status and the potential for hot spots caused by vehicular traffic congestion has been greatly reduced. In fact, the SCAQMD Air Quality Management Plan (AQMP) found that peak CO concentrations were primarily the result of unusual meteorological and topographical conditions, not traffic congestion. Additionally, the 2003 SCAQMD AQMP found that, at four of the busiest intersections in SCAB, there were no CO hot spots concentrations.

Furthermore, in the 2003 SCAQMD AQMP found that, at four of the busiest intersections in Los Angeles, there were no CO hot spots concentrations. Therefore, it is reasonable to conclude that the project would not significantly increase traffic congestion in the vicinity of the site that would lead to the formation of CO Hot Spots. **The project impact to CO Hot Spots is less than significant.**

6.4 SCAQMD Air Quality Management Plan Consistency

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

The purpose of this discussion is to set forth the issues regarding consistency with the assumptions and objectives of the AQMP and discuss whether the proposed project would interfere with the region's ability to comply with Federal and State air quality standards. If

the decision-makers determine that the proposed project is inconsistent, the lead agency may consider project modifications or inclusion of mitigation to eliminate the inconsistency.

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

The SCAQMD CEQA Handbook identifies two key indicators of consistency:

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

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

6.4.1 Criterion 1 - Increase in the Frequency or Severity of Violations

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

6.4.2 Criterion 2 - Exceed Assumptions in the AQMP

Consistency with the AQMP assumptions is determined by performing an analysis of the proposed project with the assumptions in the AQMP. The emphasis of this criterion is to ensure that the analyses conducted for the proposed project are based on the same forecasts as the AQMP. The 2016-2040 Regional Transportation/Sustainable Communities Strategy, prepared by the Southern California Association of Governments (SCAG), 2016, includes chapters on: the challenges in a changing region, creating a plan for our future, and the road to greater mobility and sustainable growth. These chapters currently respond directly to federal and state requirements placed on SCAG. Local governments are required

to use these as the basis of their plans for purposes of consistency with applicable regional plans under CEQA.

The project is consistent with the General Plan Land Use Designation of R-6000 Single Family Residential. The proposed project is not expected to increase operational emissions from mobile sources and energy sources, compared to the previously approved use. As shown in the regional and localized emissions analysis, the project is below the SCAQMD thresholds of significant for cumulative impacts. **The impact is considered less than significant.**

7.0 Greenhouse Gas Impact Analysis

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

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

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

7.1 Greenhouse Gas Emissions - Construction

Greenhouse gas emissions are estimated for on-site and off-site construction activity using CalEEMod. Table 27 shows the construction greenhouse gas emissions, including equipment and worker vehicle emissions for all phases of construction. Construction emissions are averaged over 30 years and added to the long-term operational emissions, pursuant to SCAQMD recommendations.

CalEEMod annual GHG output calculations are provided in Appendix B.

Table 27
Construction Greenhouse Gas Emissions

Activity	Emissions ($MTCO_2e$)[1]		
	On-site	Off-site	Total
Site Preparation	50.56	2.40	52.96
Grading	82.40	2.67	85.07
Building Construction	349.61	748.27	1,097.88
Paving	55.52	3.53	59.05
Architectural Coating	7.03	13.20	20.23
Total	545.12	770.07	1,315.19
Amortized over 30 years[2]	18.17	25.67	43.84

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

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

7.2 Greenhouse Gas Emissions - Operation

Greenhouse gas emissions are estimated for on-site and off-site operational activity using CalEEMod. Greenhouse gas emissions from mobile sources, area sources and energy sources are shown in Table 28. CalEEMod annual GHG output calculations are provided in Appendix B.

Table 28
Operational Greenhouse Gas Emissions

Emission Source	GHG Emissions ($MTCO_2e$)[1]
Mobile Source	1,181.08
Energy Source	492.68
Area Source	44.75
Water	101.68
Waste	46.50
Construction (30-year average)	43.84
Total Annual Emissions	**1,910.53**
SCAQMD Tier 3 Screening Threshold[2]	3,000
Exceed Tier 3 Threshold?	No

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

[2] Per South Coast Air Quality Management District (SCAQMD) Draft Guidance Document - Interim CEQA Greenhouse Gas (GHG) Significance Threshold, October 2008

As shown in Table 28, the project GHG emissions are expected to be below the SCAQMD's Tier 3 approach, which limits GHG emissions to 3,000 $MTCO_2e$ for residential projects.

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

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

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

8.0 References

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U.S Environmental Protection Agency 2010a, Final GHG Tailoring Rule, 40 CFR Parts 51, 52, 70, et al., May 2010.

Exhibits

Exhibit B
Site Plan

N

Exhibit B

Site Plan

Appendices

Appendix A

Daily Emissions Calculations Output
(CalEEMod)

Pacific Emerald Tract 37904 SFR AQ and GHG Impact Study

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	417.86	1000sqft	9.59	417,860.00	0
Retirement Community	201.00	Dwelling Unit	34.18	201,000.00	575

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 40.4 acres project site is proposing to have 201 DU SFR and approximately 417,860 square feet of both off-site and on-site street improvement.

Construction Phase - Grading and Building Construction Phase has been adjusted to meet project's 2022 opening year deadline.

Grading - The site is expected to be balanced.

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

Woodstoves - Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project

Water And Wastewater -

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

Energy Mitigation -

Fleet Mix - Trip generation rates are based on the ITE Trip Generation Manual 10th Edition.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	300.00
tblConstructionPhase	NumDays	75.00	30.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	10.05	0.00
tblLandUse	LotAcreage	40.20	34.18
tblVehicleTrips	ST_TR	2.03	2.73
tblVehicleTrips	SU_TR	1.95	2.32
tblVehicleTrips	WD_TR	2.40	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2860	46.4539	31.6179	0.0844	18.2675	2.0457	20.3131	9.9840	1.8820	11.8660	0.0000	8,419.8260	8,419.8260	1.9479	0.0000	8,441.6558
2022	25.4686	24.2512	28.6578	0.0830	4.1531	0.8429	4.9960	1.1145	0.7928	1.9073	0.0000	8,275.3675	8,275.3675	0.8516	0.0000	8,296.6561
Maximum	**25.4686**	**46.4539**	**31.6179**	**0.0844**	**18.2675**	**2.0457**	**20.3131**	**9.9840**	**1.8820**	**11.8660**	**0.0000**	**8,419.8260**	**8,419.8260**	**1.9479**	**0.0000**	**8,441.6558**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2860	46.4539	31.6179	0.0844	7.1115	2.0457	9.1572	3.8519	1.8820	5.7338	0.0000	8,419.8260	8,419.8260	1.9479	0.0000	8,441.6558
2022	25.4686	24.2512	28.6578	0.0830	4.1531	0.8429	4.9960	1.1145	0.7928	1.9073	0.0000	8,275.3675	8,275.3675	0.8516	0.0000	8,296.6561
Maximum	**25.4686**	**46.4539**	**31.6179**	**0.0844**	**7.1115**	**2.0457**	**9.1572**	**3.8519**	**1.8820**	**5.7338**	**0.0000**	**8,419.8260**	**8,419.8260**	**1.9479**	**0.0000**	**8,441.6558**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.76**	**0.00**	**44.08**	**55.25**	**0.00**	**44.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Total	**7.0439**	**15.4187**	**37.4410**	**0.1079**	**6.2545**	**0.4395**	**6.6940**	**1.6734**	**0.4360**	**2.1094**	**0.0000**	**13,218.1790**	**13,218.1790**	**0.5151**	**0.0848**	**13,256.3345**

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	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Total	**7.0439**	**15.4187**	**37.4410**	**0.1079**	**6.2545**	**0.4395**	**6.6940**	**1.6734**	**0.4360**	**2.1094**	**0.0000**	**13,218.1790**	**13,218.1790**	**0.5151**	**0.0848**	**13,256.3345**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2021	4/9/2021	5	30	
2	Grading	Grading	4/10/2021	5/21/2021	5	30	
3	Building Construction	Building Construction	5/22/2021	7/15/2022	5	300	
4	Paving	Paving	7/16/2022	9/30/2022	5	55	
5	Architectural Coating	Architectural Coating	10/1/2022	12/16/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 9.59

Residential Indoor: 407,025; Residential Outdoor: 135,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 25,072 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	320.00	90.00	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	64.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

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					6.9103	0.0000	6.9103	3.7985	0.0000	3.7985			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**6.9103**	**2.0445**	**8.9548**	**3.7985**	**1.8809**	**5.6794**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**3.3176**	**1.9853**	**5.3029**	**1.3757**	**1.8265**	**3.2022**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

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

3.4 Building Construction - 2021

Unmitigated Construction On-Site

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

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2101	8.3285	1.4860	0.0233	0.5763	0.0158	0.5922	0.1659	0.0152	0.1811		2,459.2592	2,459.2592	0.1759		2,463.6576
Worker	1.5171	0.8643	11.8308	0.0342	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,407.2029	3,407.2029	0.0812		3,409.2340
Total	**1.7272**	**9.1928**	**13.3167**	**0.0575**	**4.1532**	**0.0369**	**4.1901**	**1.1145**	**0.0346**	**1.1491**		**5,866.4621**	**5,866.4621**	**0.2572**		**5,872.8916**

Mitigated Construction On-Site

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

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2101	8.3285	1.4860	0.0233	0.5763	0.0158	0.5922	0.1659	0.0152	0.1811		2,459.2592	2,459.2592	0.1759		2,463.6576
Worker	1.5171	0.8643	11.8308	0.0342	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,407.2029	3,407.2029	0.0812		3,409.2340
Total	**1.7272**	**9.1928**	**13.3167**	**0.0575**	**4.1532**	**0.0369**	**4.1901**	**1.1145**	**0.0346**	**1.1491**		**5,866.4621**	**5,866.4621**	**0.2572**		**5,872.8916**

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**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1959	7.8577	1.3821	0.0231	0.5763	0.0133	0.5896	0.1659	0.0127	0.1787		2,438.3266	2,438.3266	0.1666		2,442.4922
Worker	1.4191	0.7778	10.9123	0.0329	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		3,282.7073	3,282.7073	0.0730		3,284.5317
Total	**1.6150**	**8.6355**	**12.2944**	**0.0561**	**4.1531**	**0.0338**	**4.1870**	**1.1145**	**0.0316**	**1.1462**		**5,721.0339**	**5,721.0339**	**0.2396**		**5,727.0239**

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**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1959	7.8577	1.3821	0.0231	0.5763	0.0133	0.5896	0.1659	0.0127	0.1787		2,438.3266	2,438.3266	0.1666		2,442.4922
Worker	1.4191	0.7778	10.9123	0.0329	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		3,282.7073	3,282.7073	0.0730		3,284.5317
Total	**1.6150**	**8.6355**	**12.2944**	**0.0561**	**4.1531**	**0.0338**	**4.1870**	**1.1145**	**0.0316**	**1.1462**		**5,721.0339**	**5,721.0339**	**0.2396**		**5,727.0239**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2838	0.1556	2.1825	6.5900e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		656.5415	656.5415	0.0146		656.9063
Total	**0.2838**	**0.1556**	**2.1825**	**6.5900e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**656.5415**	**656.5415**	**0.0146**		**656.9063**

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	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2838	0.1556	2.1825	6.5900e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		656.5415	656.5415	0.0146		656.9063
Total	**0.2838**	**0.1556**	**2.1825**	**6.5900e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**656.5415**	**656.5415**	**0.0146**		**656.9063**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Unmitigated	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	858.27	548.73	466.32	2,590,396	2,590,396
Total	858.27	548.73	466.32	2,590,396	2,590,396

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Retirement Community	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Retirement Community	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
NaturalGas Unmitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8576.64	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8.57664	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Unmitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Pacific Emerald Tract 37904 SFR AQ and GHG Impact Study

Riverside-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	417.86	1000sqft	9.59	417,860.00	0
Retirement Community	201.00	Dwelling Unit	34.18	201,000.00	575

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 40.4 acres project site is proposing to have 201 DU SFR and approximately 417,860 square feet of both off-site and on-site street improvement.

Construction Phase - Grading and Building Construction Phase has been adjusted to meet project's 2022 opening year deadline.

Grading - The site is expected to be balanced.

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

Woodstoves - Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project

Water And Wastewater -

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

Energy Mitigation -

Fleet Mix - Trip generation rates are based on the ITE Trip Generation Manual 10th Edition.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	300.00
tblConstructionPhase	NumDays	75.00	30.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	10.05	0.00
tblLandUse	LotAcreage	40.20	34.18
tblVehicleTrips	ST_TR	2.03	2.73
tblVehicleTrips	SU_TR	1.95	2.32
tblVehicleTrips	WD_TR	2.40	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2860	46.4539	31.6179	0.0844	18.2675	2.0457	20.3131	9.9840	1.8820	11.8660	0.0000	8,419.8260	8,419.8260	1.9479	0.0000	8,441.6558
2022	25.4686	24.2512	28.6578	0.0830	4.1531	0.8429	4.9960	1.1145	0.7928	1.9073	0.0000	8,275.3675	8,275.3675	0.8516	0.0000	8,296.6561
Maximum	**25.4686**	**46.4539**	**31.6179**	**0.0844**	**18.2675**	**2.0457**	**20.3131**	**9.9840**	**1.8820**	**11.8660**	**0.0000**	**8,419.8260**	**8,419.8260**	**1.9479**	**0.0000**	**8,441.6558**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2860	46.4539	31.6179	0.0844	7.1115	2.0457	9.1572	3.8519	1.8820	5.7338	0.0000	8,419.8260	8,419.8260	1.9479	0.0000	8,441.6558
2022	25.4686	24.2512	28.6578	0.0830	4.1531	0.8429	4.9960	1.1145	0.7928	1.9073	0.0000	8,275.3675	8,275.3675	0.8516	0.0000	8,296.6561
Maximum	**25.4686**	**46.4539**	**31.6179**	**0.0844**	**7.1115**	**2.0457**	**9.1572**	**3.8519**	**1.8820**	**5.7338**	**0.0000**	**8,419.8260**	**8,419.8260**	**1.9479**	**0.0000**	**8,441.6558**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.76**	**0.00**	**44.08**	**55.25**	**0.00**	**44.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Total	**7.0439**	**15.4187**	**37.4410**	**0.1079**	**6.2545**	**0.4395**	**6.6940**	**1.6734**	**0.4360**	**2.1094**	**0.0000**	**13,218.1790**	**13,218.1790**	**0.5151**	**0.0848**	**13,256.3345**

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	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Total	**7.0439**	**15.4187**	**37.4410**	**0.1079**	**6.2545**	**0.4395**	**6.6940**	**1.6734**	**0.4360**	**2.1094**	**0.0000**	**13,218.1790**	**13,218.1790**	**0.5151**	**0.0848**	**13,256.3345**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2021	4/9/2021	5	30	
2	Grading	Grading	4/10/2021	5/21/2021	5	30	
3	Building Construction	Building Construction	5/22/2021	7/15/2022	5	300	
4	Paving	Paving	7/16/2022	9/30/2022	5	55	
5	Architectural Coating	Architectural Coating	10/1/2022	12/16/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 9.59

Residential Indoor: 407,025; Residential Outdoor: 135,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 25,072 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	320.00	90.00	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	64.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

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					6.9103	0.0000	6.9103	3.7985	0.0000	3.7985			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**6.9103**	**2.0445**	**8.9548**	**3.7985**	**1.8809**	**5.6794**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0853	0.0486	0.6655	1.9200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		191.6552	191.6552	4.5700e-003		191.7694
Total	**0.0853**	**0.0486**	**0.6655**	**1.9200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**191.6552**	**191.6552**	**4.5700e-003**		**191.7694**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**3.3176**	**1.9853**	**5.3029**	**1.3757**	**1.8265**	**3.2022**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

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

3.4 Building Construction - 2021

Unmitigated Construction On-Site

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

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2101	8.3285	1.4860	0.0233	0.5763	0.0158	0.5922	0.1659	0.0152	0.1811		2,459.2592	2,459.2592	0.1759		2,463.6576
Worker	1.5171	0.8643	11.8308	0.0342	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,407.2029	3,407.2029	0.0812		3,409.2340
Total	**1.7272**	**9.1928**	**13.3167**	**0.0575**	**4.1532**	**0.0369**	**4.1901**	**1.1145**	**0.0346**	**1.1491**		**5,866.4621**	**5,866.4621**	**0.2572**		**5,872.8916**

Mitigated Construction On-Site

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

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2101	8.3285	1.4860	0.0233	0.5763	0.0158	0.5922	0.1659	0.0152	0.1811		2,459.2592	2,459.2592	0.1759		2,463.6576
Worker	1.5171	0.8643	11.8308	0.0342	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,407.2029	3,407.2029	0.0812		3,409.2340
Total	**1.7272**	**9.1928**	**13.3167**	**0.0575**	**4.1532**	**0.0369**	**4.1901**	**1.1145**	**0.0346**	**1.1491**		**5,866.4621**	**5,866.4621**	**0.2572**		**5,872.8916**

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**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1959	7.8577	1.3821	0.0231	0.5763	0.0133	0.5896	0.1659	0.0127	0.1787		2,438.3266	2,438.3266	0.1666		2,442.4922
Worker	1.4191	0.7778	10.9123	0.0329	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		3,282.7073	3,282.7073	0.0730		3,284.5317
Total	**1.6150**	**8.6355**	**12.2944**	**0.0561**	**4.1531**	**0.0338**	**4.1870**	**1.1145**	**0.0316**	**1.1462**		**5,721.0339**	**5,721.0339**	**0.2396**		**5,727.0239**

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**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.1959	7.8577	1.3821	0.0231	0.5763	0.0133	0.5896	0.1659	0.0127	0.1787		2,438.3266	2,438.3266	0.1666		2,442.4922
Worker	1.4191	0.7778	10.9123	0.0329	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		3,282.7073	3,282.7073	0.0730		3,284.5317
Total	**1.6150**	**8.6355**	**12.2944**	**0.0561**	**4.1531**	**0.0338**	**4.1870**	**1.1145**	**0.0316**	**1.1462**		**5,721.0339**	**5,721.0339**	**0.2396**		**5,727.0239**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0665	0.0365	0.5115	1.5400e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		153.8769	153.8769	3.4200e-003		153.9624
Total	**0.0665**	**0.0365**	**0.5115**	**1.5400e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**153.8769**	**153.8769**	**3.4200e-003**		**153.9624**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2838	0.1556	2.1825	6.5900e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		656.5415	656.5415	0.0146		656.9063
Total	**0.2838**	**0.1556**	**2.1825**	**6.5900e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**656.5415**	**656.5415**	**0.0146**		**656.9063**

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	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2838	0.1556	2.1825	6.5900e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		656.5415	656.5415	0.0146		656.9063
Total	**0.2838**	**0.1556**	**2.1825**	**6.5900e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**656.5415**	**656.5415**	**0.0146**		**656.9063**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450
Unmitigated	1.6102	11.6024	19.2553	0.0839	6.2545	0.0546	6.3090	1.6734	0.0511	1.7245		8,561.2117	8,561.2117	0.3973		8,571.1450

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	858.27	548.73	466.32	2,590,396	2,590,396
Total	858.27	548.73	466.32	2,590,396	2,590,396

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Retirement Community	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Retirement Community	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
NaturalGas Unmitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8576.64	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8.57664	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Unmitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Pacific Emerald Tract 37904 SFR AQ and GHG Impact Study

Riverside-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	417.86	1000sqft	9.59	417,860.00	0
Retirement Community	201.00	Dwelling Unit	34.18	201,000.00	575

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 40.4 acres project site is proposing to have 201 DU SFR and approximately 417,860 square feet of both off-site and on-site street improvement.

Construction Phase - Grading and Building Construction Phase has been adjusted to meet project's 2022 opening year deadline.

Grading - The site is expected to be balanced.

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

Woodstoves - Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project

Water And Wastewater -

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

Energy Mitigation -

Fleet Mix - Trip generation rates are based on the ITE Trip Generation Manual 10th Edition.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	300.00
tblConstructionPhase	NumDays	75.00	30.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	10.05	0.00
tblLandUse	LotAcreage	40.20	34.18
tblVehicleTrips	ST_TR	2.03	2.73
tblVehicleTrips	SU_TR	1.95	2.32
tblVehicleTrips	WD_TR	2.40	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2842	46.4557	31.4753	0.0800	18.2675	2.0457	20.3131	9.9840	1.8820	11.8660	0.0000	7,976.7422	7,976.7422	1.9472	0.0000	7,998.8093
2022	25.4642	24.1987	26.7993	0.0787	4.1531	0.8433	4.9964	1.1145	0.7932	1.9077	0.0000	7,845.5123	7,845.5123	0.8613	0.0000	7,867.0450
Maximum	**25.4642**	**46.4557**	**31.4753**	**0.0800**	**18.2675**	**2.0457**	**20.3131**	**9.9840**	**1.8820**	**11.8660**	**0.0000**	**7,976.7422**	**7,976.7422**	**1.9472**	**0.0000**	**7,998.8093**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	4.2842	46.4557	31.4753	0.0800	7.1115	2.0457	9.1572	3.8519	1.8820	5.7338	0.0000	7,976.7422	7,976.7422	1.9472	0.0000	7,998.8093
2022	25.4642	24.1987	26.7993	0.0787	4.1531	0.8433	4.9964	1.1145	0.7932	1.9077	0.0000	7,845.5123	7,845.5123	0.8613	0.0000	7,867.0450
Maximum	**25.4642**	**46.4557**	**31.4753**	**0.0800**	**7.1115**	**2.0457**	**9.1572**	**3.8519**	**1.8820**	**5.7338**	**0.0000**	**7,976.7422**	**7,976.7422**	**1.9472**	**0.0000**	**7,998.8093**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**49.76**	**0.00**	**44.08**	**55.25**	**0.00**	**44.52**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.3662	11.5991	16.6399	0.0774	6.2545	0.0551	6.3096	1.6734	0.0516	1.7250		7,910.2304	7,910.2304	0.4103		7,920.4887
Total	**6.7999**	**15.4154**	**34.8256**	**0.1014**	**6.2545**	**0.4400**	**6.6945**	**1.6734**	**0.4366**	**2.1099**	**0.0000**	**12,567.1976**	**12,567.1976**	**0.5281**	**0.0848**	**12,605.6782**

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	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Energy	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Mobile	1.3662	11.5991	16.6399	0.0774	6.2545	0.0551	6.3096	1.6734	0.0516	1.7250		7,910.2304	7,910.2304	0.4103		7,920.4887
Total	**6.7999**	**15.4154**	**34.8256**	**0.1014**	**6.2545**	**0.4400**	**6.6945**	**1.6734**	**0.4366**	**2.1099**	**0.0000**	**12,567.1976**	**12,567.1976**	**0.5281**	**0.0848**	**12,605.6782**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2021	4/9/2021	5	30	
2	Grading	Grading	4/10/2021	5/21/2021	5	30	
3	Building Construction	Building Construction	5/22/2021	7/15/2022	5	300	
4	Paving	Paving	7/16/2022	9/30/2022	5	55	
5	Architectural Coating	Architectural Coating	10/1/2022	12/16/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 9.59

Residential Indoor: 407,025; Residential Outdoor: 135,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 25,072 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	320.00	90.00	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	64.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809		3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**18.0663**	**2.0445**	**20.1107**	**9.9307**	**1.8809**	**11.8116**		**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

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					6.9103	0.0000	6.9103	3.7985	0.0000	3.7985			0.0000			0.0000
Off-Road	3.8882	40.4971	21.1543	0.0380		2.0445	2.0445		1.8809	1.8809	0.0000	3,685.6569	3,685.6569	1.1920		3,715.4573
Total	**3.8882**	**40.4971**	**21.1543**	**0.0380**	**6.9103**	**2.0445**	**8.9548**	**3.7985**	**1.8809**	**5.6794**	**0.0000**	**3,685.6569**	**3,685.6569**	**1.1920**		**3,715.4573**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	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	0.0838	0.0503	0.5372	1.7200e-003	0.2012	1.1900e-003	0.2024	0.0534	1.0900e-003	0.0545		171.9348	171.9348	3.9700e-003		172.0342
Total	**0.0838**	**0.0503**	**0.5372**	**1.7200e-003**	**0.2012**	**1.1900e-003**	**0.2024**	**0.0534**	**1.0900e-003**	**0.0545**		**171.9348**	**171.9348**	**3.9700e-003**		**172.0342**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6733	0.0000	8.6733	3.5965	0.0000	3.5965			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265		6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**8.6733**	**1.9853**	**10.6587**	**3.5965**	**1.8265**	**5.4230**		**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Unmitigated Construction Off-Site

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

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.3176	0.0000	3.3176	1.3757	0.0000	1.3757			0.0000			0.0000
Off-Road	4.1912	46.3998	30.8785	0.0620		1.9853	1.9853		1.8265	1.8265	0.0000	6,007.0434	6,007.0434	1.9428		6,055.6134
Total	**4.1912**	**46.3998**	**30.8785**	**0.0620**	**3.3176**	**1.9853**	**5.3029**	**1.3757**	**1.8265**	**3.2022**	**0.0000**	**6,007.0434**	**6,007.0434**	**1.9428**		**6,055.6134**

3.3 Grading - 2021

Mitigated Construction Off-Site

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

3.4 Building Construction - 2021

Unmitigated Construction On-Site

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

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2232	8.2568	1.7578	0.0225	0.5763	0.0163	0.5926	0.1659	0.0156	0.1815		2,366.7590	2,366.7590	0.1960		2,371.6599
Worker	1.4888	0.8938	9.5498	0.0307	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,056.6194	3,056.6194	0.0706		3,058.3852
Total	**1.7120**	**9.1506**	**11.3075**	**0.0531**	**4.1532**	**0.0374**	**4.1905**	**1.1145**	**0.0350**	**1.1495**		**5,423.3783**	**5,423.3783**	**0.2667**		**5,430.0450**

Mitigated Construction On-Site

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

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2232	8.2568	1.7578	0.0225	0.5763	0.0163	0.5926	0.1659	0.0156	0.1815		2,366.7590	2,366.7590	0.1960		2,371.6599
Worker	1.4888	0.8938	9.5498	0.0307	3.5769	0.0211	3.5979	0.9486	0.0194	0.9680		3,056.6194	3,056.6194	0.0706		3,058.3852
Total	**1.7120**	**9.1506**	**11.3075**	**0.0531**	**4.1532**	**0.0374**	**4.1905**	**1.1145**	**0.0350**	**1.1495**		**5,423.3783**	**5,423.3783**	**0.2667**		**5,430.0450**

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**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2084	7.7790	1.6409	0.0222	0.5763	0.0138	0.5900	0.1659	0.0132	0.1791		2,346.0942	2,346.0942	0.1859		2,350.7405
Worker	1.3967	0.8041	8.7950	0.0295	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		2,945.0844	2,945.0844	0.0635		2,946.6723
Total	**1.6051**	**8.5831**	**10.4359**	**0.0518**	**4.1531**	**0.0343**	**4.1874**	**1.1145**	**0.0320**	**1.1466**		**5,291.1787**	**5,291.1787**	**0.2494**		**5,297.4128**

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**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.2084	7.7790	1.6409	0.0222	0.5763	0.0138	0.5900	0.1659	0.0132	0.1791		2,346.0942	2,346.0942	0.1859		2,350.7405
Worker	1.3967	0.8041	8.7950	0.0295	3.5769	0.0205	3.5974	0.9486	0.0189	0.9675		2,945.0844	2,945.0844	0.0635		2,946.6723
Total	**1.6051**	**8.5831**	**10.4359**	**0.0518**	**4.1531**	**0.0343**	**4.1874**	**1.1145**	**0.0320**	**1.1466**		**5,291.1787**	**5,291.1787**	**0.2494**		**5,297.4128**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.0655**	**0.0377**	**0.4123**	**1.3800e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**138.0508**	**138.0508**	**2.9800e-003**		**138.1253**

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	0.4568					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.5597**	**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**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	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	0.0655	0.0377	0.4123	1.3800e-003	0.1677	9.6000e-004	0.1686	0.0445	8.9000e-004	0.0454		138.0508	138.0508	2.9800e-003		138.1253
Total	**0.0655**	**0.0377**	**0.4123**	**1.3800e-003**	**0.1677**	**9.6000e-004**	**0.1686**	**0.0445**	**8.9000e-004**	**0.0454**		**138.0508**	**138.0508**	**2.9800e-003**		**138.1253**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2793	0.1608	1.7590	5.9100e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		589.0169	589.0169	0.0127		589.3345
Total	**0.2793**	**0.1608**	**1.7590**	**5.9100e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**589.0169**	**589.0169**	**0.0127**		**589.3345**

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	24.9803					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**25.1848**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.2793	0.1608	1.7590	5.9100e-003	0.7154	4.1000e-003	0.7195	0.1897	3.7800e-003	0.1935		589.0169	589.0169	0.0127		589.3345
Total	**0.2793**	**0.1608**	**1.7590**	**5.9100e-003**	**0.7154**	**4.1000e-003**	**0.7195**	**0.1897**	**3.7800e-003**	**0.1935**		**589.0169**	**589.0169**	**0.0127**		**589.3345**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.3662	11.5991	16.6399	0.0774	6.2545	0.0551	6.3096	1.6734	0.0516	1.7250		7,910.2304	7,910.2304	0.4103		7,920.4887
Unmitigated	1.3662	11.5991	16.6399	0.0774	6.2545	0.0551	6.3096	1.6734	0.0516	1.7250		7,910.2304	7,910.2304	0.4103		7,920.4887

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	858.27	548.73	466.32	2,590,396	2,590,396
Total	858.27	548.73	466.32	2,590,396	2,590,396

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Retirement Community	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Retirement Community	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
NaturalGas Unmitigated	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8576.64	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	8.57664	0.0925	0.7904	0.3363	5.0500e-003		0.0639	0.0639		0.0639	0.0639		1,009.0168	1,009.0168	0.0193	0.0185	1,015.0128
Total		**0.0925**	**0.7904**	**0.3363**	**5.0500e-003**		**0.0639**	**0.0639**		**0.0639**	**0.0639**		**1,009.0168**	**1,009.0168**	**0.0193**	**0.0185**	**1,015.0128**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766
Unmitigated	5.3413	3.0259	17.8493	0.0190		0.3210	0.3210		0.3210	0.3210	0.0000	3,647.9505	3,647.9505	0.0984	0.0663	3,670.1766

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

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	0.3764					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.1278					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.3317	2.8341	1.2060	0.0181		0.2291	0.2291		0.2291	0.2291	0.0000	3,618.0000	3,618.0000	0.0693	0.0663	3,639.5000
Landscaping	0.5054	0.1918	16.6433	8.8000e-004		0.0919	0.0919		0.0919	0.0919		29.9505	29.9505	0.0291		30.6767
Total	**5.3413**	**3.0259**	**17.8493**	**0.0190**		**0.3210**	**0.3210**		**0.3210**	**0.3210**	**0.0000**	**3,647.9505**	**3,647.9505**	**0.0984**	**0.0663**	**3,670.1766**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix B

Annual Emission Calculations Output
(CalEEMod)

Pacific Emerald Tract 37904 SFR AQ and GHG Impact Study

Riverside-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	417.86	1000sqft	9.59	417,860.00	0
Retirement Community	201.00	Dwelling Unit	34.18	201,000.00	575

1.2 Other Project Characteristics

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

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - The 40.4 acres project site is proposing to have 201 DU SFR and approximately 417,860 square feet of both off-site and on-site street improvement.

Construction Phase - Grading and Building Construction Phase has been adjusted to meet project's 2022 opening year deadline.

Grading - The site is expected to be balanced.

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

Woodstoves - Per SCAQMD rule 445, no wood burning devices are allowed in new developments; therefore, no wood hearths are included in this project

Water And Wastewater -

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

Energy Mitigation -

Fleet Mix - Trip generation rates are based on the ITE Trip Generation Manual 10th Edition.

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	740.00	300.00
tblConstructionPhase	NumDays	75.00	30.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberWood	10.05	0.00
tblLandUse	LotAcreage	40.20	34.18
tblVehicleTrips	ST_TR	2.03	2.73
tblVehicleTrips	SU_TR	1.95	2.32
tblVehicleTrips	WD_TR	2.40	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4026	3.4450	3.0595	8.0600e-003	0.7342	0.1401	0.8744	0.2924	0.1305	0.4229	0.0000	725.4777	725.4777	0.1062	0.0000	728.1323
2022	0.9676	2.0551	2.4142	6.5100e-003	0.3099	0.0770	0.3869	0.0832	0.0723	0.1555	0.0000	587.1275	587.1275	0.0728	0.0000	588.9478
Maximum	**0.9676**	**3.4450**	**3.0595**	**8.0600e-003**	**0.7342**	**0.1401**	**0.8744**	**0.2924**	**0.1305**	**0.4229**	**0.0000**	**725.4777**	**725.4777**	**0.1062**	**0.0000**	**728.1323**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.4026	3.4450	3.0595	8.0600e-003	0.4865	0.1401	0.6267	0.1671	0.1305	0.2976	0.0000	725.4773	725.4773	0.1062	0.0000	728.1319
2022	0.9676	2.0551	2.4141	6.5100e-003	0.3099	0.0770	0.3869	0.0832	0.0723	0.1555	0.0000	587.1272	587.1272	0.0728	0.0000	588.9475
Maximum	**0.9676**	**3.4450**	**3.0595**	**8.0600e-003**	**0.4865**	**0.1401**	**0.6267**	**0.1671**	**0.1305**	**0.2976**	**0.0000**	**725.4773**	**725.4773**	**0.1062**	**0.0000**	**728.1319**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**23.72**	**0.00**	**19.64**	**33.36**	**0.00**	**21.66**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	3-1-2021	5-31-2021	1.5051	1.5051
2	6-1-2021	8-31-2021	0.9940	0.9940
3	9-1-2021	11-30-2021	0.9820	0.9820
4	12-1-2021	2-28-2022	0.9140	0.9140
5	3-1-2022	5-31-2022	0.9053	0.9053
6	6-1-2022	8-31-2022	0.6578	0.6578
7	9-1-2022	9-30-2022	0.1370	0.1370
		Highest	1.5051	1.5051

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	0.8893	0.0594	2.0955	3.4000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	44.4238	44.4238	4.0800e-003	7.5000e-004	44.7499
Energy	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	490.5348	490.5348	0.0166	5.8300e-003	492.6847
Mobile	0.2200	1.8973	2.7559	0.0127	0.9890	8.8000e-003	0.9978	0.2650	8.2400e-003	0.2732	0.0000	1,179.6270	1,179.6270	0.0581	0.0000	1,181.0793
Waste						0.0000	0.0000		0.0000	0.0000	18.7685	0.0000	18.7685	1.1092	0.0000	46.4983
Water						0.0000	0.0000		0.0000	0.0000	4.1547	83.5579	87.7127	0.4302	0.0108	101.6826
Total	**1.1262**	**2.1010**	**4.9128**	**0.0140**	**0.9890**	**0.0348**	**1.0238**	**0.2650**	**0.0343**	**0.2992**	**22.9233**	**1,798.1434**	**1,821.0667**	**1.6181**	**0.0174**	**1,866.6948**

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	0.8893	0.0594	2.0955	3.4000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	44.4238	44.4238	4.0800e-003	7.5000e-004	44.7499
Energy	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	490.5348	490.5348	0.0166	5.8300e-003	492.6847
Mobile	0.2200	1.8973	2.7559	0.0127	0.9890	8.8000e-003	0.9978	0.2650	8.2400e-003	0.2732	0.0000	1,179.6270	1,179.6270	0.0581	0.0000	1,181.0793
Waste						0.0000	0.0000		0.0000	0.0000	18.7685	0.0000	18.7685	1.1092	0.0000	46.4983
Water						0.0000	0.0000		0.0000	0.0000	4.1547	83.5579	87.7127	0.4302	0.0108	101.6826
Total	**1.1262**	**2.1010**	**4.9128**	**0.0140**	**0.9890**	**0.0348**	**1.0238**	**0.2650**	**0.0343**	**0.2992**	**22.9233**	**1,798.1434**	**1,821.0667**	**1.6181**	**0.0174**	**1,866.6948**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	3/1/2021	4/9/2021	5	30	
2	Grading	Grading	4/10/2021	5/21/2021	5	30	
3	Building Construction	Building Construction	5/22/2021	7/15/2022	5	300	
4	Paving	Paving	7/16/2022	9/30/2022	5	55	
5	Architectural Coating	Architectural Coating	10/1/2022	12/16/2022	5	55	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 9.59

Residential Indoor: 407,025; Residential Outdoor: 135,675; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 25,072 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
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	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	320.00	90.00	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	64.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Replace Ground Cover

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.2710	0.0000	0.2710	0.1490	0.0000	0.1490	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1536	50.1536	0.0162	0.0000	50.5591
Total	**0.0583**	**0.6075**	**0.3173**	**5.7000e-004**	**0.2710**	**0.0307**	**0.3017**	**0.1490**	**0.0282**	**0.1772**	**0.0000**	**50.1536**	**50.1536**	**0.0162**	**0.0000**	**50.5591**

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1600e-003	7.8000e-004	8.5000e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3999	2.3999	6.0000e-005	0.0000	2.4013
Total	**1.1600e-003**	**7.8000e-004**	**8.5000e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3999**	**2.3999**	**6.0000e-005**	**0.0000**	**2.4013**

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					0.1037	0.0000	0.1037	0.0570	0.0000	0.0570	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0583	0.6075	0.3173	5.7000e-004		0.0307	0.0307		0.0282	0.0282	0.0000	50.1535	50.1535	0.0162	0.0000	50.5590
Total	**0.0583**	**0.6075**	**0.3173**	**5.7000e-004**	**0.1037**	**0.0307**	**0.1343**	**0.0570**	**0.0282**	**0.0852**	**0.0000**	**50.1535**	**50.1535**	**0.0162**	**0.0000**	**50.5590**

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1600e-003	7.8000e-004	8.5000e-003	3.0000e-005	2.9700e-003	2.0000e-005	2.9900e-003	7.9000e-004	2.0000e-005	8.0000e-004	0.0000	2.3999	2.3999	6.0000e-005	0.0000	2.4013
Total	**1.1600e-003**	**7.8000e-004**	**8.5000e-003**	**3.0000e-005**	**2.9700e-003**	**2.0000e-005**	**2.9900e-003**	**7.9000e-004**	**2.0000e-005**	**8.0000e-004**	**0.0000**	**2.3999**	**2.3999**	**6.0000e-005**	**0.0000**	**2.4013**

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1301	0.0000	0.1301	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7425	81.7425	0.0264	0.0000	82.4034
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.1301**	**0.0298**	**0.1599**	**0.0540**	**0.0274**	**0.0814**	**0.0000**	**81.7425**	**81.7425**	**0.0264**	**0.0000**	**82.4034**

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.7000e-004	9.4400e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	8.9000e-004	0.0000	2.6665	2.6665	6.0000e-005	0.0000	2.6681
Total	**1.2900e-003**	**8.7000e-004**	**9.4400e-003**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.6665**	**2.6665**	**6.0000e-005**	**0.0000**	**2.6681**

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					0.0498	0.0000	0.0498	0.0206	0.0000	0.0206	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0629	0.6960	0.4632	9.3000e-004		0.0298	0.0298		0.0274	0.0274	0.0000	81.7424	81.7424	0.0264	0.0000	82.4033
Total	**0.0629**	**0.6960**	**0.4632**	**9.3000e-004**	**0.0498**	**0.0298**	**0.0795**	**0.0206**	**0.0274**	**0.0480**	**0.0000**	**81.7424**	**81.7424**	**0.0264**	**0.0000**	**82.4033**

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	8.7000e-004	9.4400e-003	3.0000e-005	3.3000e-003	2.0000e-005	3.3200e-003	8.8000e-004	2.0000e-005	8.9000e-004	0.0000	2.6665	2.6665	6.0000e-005	0.0000	2.6681
Total	**1.2900e-003**	**8.7000e-004**	**9.4400e-003**	**3.0000e-005**	**3.3000e-003**	**2.0000e-005**	**3.3200e-003**	**8.8000e-004**	**2.0000e-005**	**8.9000e-004**	**0.0000**	**2.6665**	**2.6665**	**6.0000e-005**	**0.0000**	**2.6681**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1521	1.3946	1.3260	2.1500e-003		0.0767	0.0767		0.0721	0.0721	0.0000	185.3098	185.3098	0.0447	0.0000	186.4275
Total	**0.1521**	**1.3946**	**1.3260**	**2.1500e-003**		**0.0767**	**0.0767**		**0.0721**	**0.0721**	**0.0000**	**185.3098**	**185.3098**	**0.0447**	**0.0000**	**186.4275**

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.6714	0.1292	1.8400e-003	0.0455	1.2800e-003	0.0468	0.0131	1.2300e-003	0.0144	0.0000	175.6607	175.6607	0.0134	0.0000	175.9957
Worker	0.1098	0.0740	0.8059	2.5200e-003	0.2814	1.6900e-003	0.2831	0.0747	1.5500e-003	0.0763	0.0000	227.5447	227.5447	5.3000e-003	0.0000	227.6772
Total	**0.1269**	**0.7453**	**0.9351**	**4.3600e-003**	**0.3269**	**2.9700e-003**	**0.3298**	**0.0878**	**2.7800e-003**	**0.0906**	**0.0000**	**403.2054**	**403.2054**	**0.0187**	**0.0000**	**403.6729**

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	0.1521	1.3946	1.3260	2.1500e-003		0.0767	0.0767		0.0721	0.0721	0.0000	185.3096	185.3096	0.0447	0.0000	186.4273
Total	**0.1521**	**1.3946**	**1.3260**	**2.1500e-003**		**0.0767**	**0.0767**		**0.0721**	**0.0721**	**0.0000**	**185.3096**	**185.3096**	**0.0447**	**0.0000**	**186.4273**

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0172	0.6714	0.1292	1.8400e-003	0.0455	1.2800e-003	0.0468	0.0131	1.2300e-003	0.0144	0.0000	175.6607	175.6607	0.0134	0.0000	175.9957
Worker	0.1098	0.0740	0.8059	2.5200e-003	0.2814	1.6900e-003	0.2831	0.0747	1.5500e-003	0.0763	0.0000	227.5447	227.5447	5.3000e-003	0.0000	227.6772
Total	**0.1269**	**0.7453**	**0.9351**	**4.3600e-003**	**0.3269**	**2.9700e-003**	**0.3298**	**0.0878**	**2.7800e-003**	**0.0906**	**0.0000**	**403.2054**	**403.2054**	**0.0187**	**0.0000**	**403.6729**

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	0.1194	1.0931	1.1454	1.8900e-003		0.0566	0.0566		0.0533	0.0533	0.0000	162.2077	162.2077	0.0389	0.0000	163.1792
Total	**0.1194**	**1.0931**	**1.1454**	**1.8900e-003**		**0.0566**	**0.0566**		**0.0533**	**0.0533**	**0.0000**	**162.2077**	**162.2077**	**0.0389**	**0.0000**	**163.1792**

3.4 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0140	0.5534	0.1053	1.5900e-003	0.0398	9.4000e-004	0.0407	0.0115	9.0000e-004	0.0124	0.0000	152.3810	152.3810	0.0111	0.0000	152.6587
Worker	0.0900	0.0582	0.6496	2.1200e-003	0.2462	1.4400e-003	0.2476	0.0654	1.3200e-003	0.0667	0.0000	191.8361	191.8361	4.1700e-003	0.0000	191.9403
Total	**0.1040**	**0.6116**	**0.7549**	**3.7100e-003**	**0.2860**	**2.3800e-003**	**0.2884**	**0.0769**	**2.2200e-003**	**0.0791**	**0.0000**	**344.2171**	**344.2171**	**0.0153**	**0.0000**	**344.5990**

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	0.1194	1.0931	1.1454	1.8900e-003		0.0566	0.0566		0.0533	0.0533	0.0000	162.2075	162.2075	0.0389	0.0000	163.1790
Total	**0.1194**	**1.0931**	**1.1454**	**1.8900e-003**		**0.0566**	**0.0566**		**0.0533**	**0.0533**	**0.0000**	**162.2075**	**162.2075**	**0.0389**	**0.0000**	**163.1790**

3.4 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0140	0.5534	0.1053	1.5900e-003	0.0398	9.4000e-004	0.0407	0.0115	9.0000e-004	0.0124	0.0000	152.3810	152.3810	0.0111	0.0000	152.6587
Worker	0.0900	0.0582	0.6496	2.1200e-003	0.2462	1.4400e-003	0.2476	0.0654	1.3200e-003	0.0667	0.0000	191.8361	191.8361	4.1700e-003	0.0000	191.9403
Total	**0.1040**	**0.6116**	**0.7549**	**3.7100e-003**	**0.2860**	**2.3800e-003**	**0.2884**	**0.0769**	**2.2200e-003**	**0.0791**	**0.0000**	**344.2171**	**344.2171**	**0.0153**	**0.0000**	**344.5990**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0303	0.3059	0.4010	6.3000e-004		0.0156	0.0156		0.0144	0.0144	0.0000	55.0758	55.0758	0.0178	0.0000	55.5211
Paving	0.0126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0429**	**0.3059**	**0.4010**	**6.3000e-004**		**0.0156**	**0.0156**		**0.0144**	**0.0144**	**0.0000**	**55.0758**	**55.0758**	**0.0178**	**0.0000**	**55.5211**

3.5 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.0700e-003	0.0120	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	2.0000e-005	1.2300e-003	0.0000	3.5327	3.5327	8.0000e-005	0.0000	3.5346
Total	**1.6600e-003**	**1.0700e-003**	**0.0120**	**4.0000e-005**	**4.5300e-003**	**3.0000e-005**	**4.5600e-003**	**1.2000e-003**	**2.0000e-005**	**1.2300e-003**	**0.0000**	**3.5327**	**3.5327**	**8.0000e-005**	**0.0000**	**3.5346**

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	0.0303	0.3059	0.4010	6.3000e-004		0.0156	0.0156		0.0144	0.0144	0.0000	55.0757	55.0757	0.0178	0.0000	55.5210
Paving	0.0126					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0429**	**0.3059**	**0.4010**	**6.3000e-004**		**0.0156**	**0.0156**		**0.0144**	**0.0144**	**0.0000**	**55.0757**	**55.0757**	**0.0178**	**0.0000**	**55.5210**

3.5 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6600e-003	1.0700e-003	0.0120	4.0000e-005	4.5300e-003	3.0000e-005	4.5600e-003	1.2000e-003	2.0000e-005	1.2300e-003	0.0000	3.5327	3.5327	8.0000e-005	0.0000	3.5346
Total	**1.6600e-003**	**1.0700e-003**	**0.0120**	**4.0000e-005**	**4.5300e-003**	**3.0000e-005**	**4.5600e-003**	**1.2000e-003**	**2.0000e-005**	**1.2300e-003**	**0.0000**	**3.5327**	**3.5327**	**8.0000e-005**	**0.0000**	**3.5346**

3.6 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.6870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0387	0.0499	8.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	7.0215	7.0215	4.6000e-004	0.0000	7.0329
Total	**0.6926**	**0.0387**	**0.0499**	**8.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.0215**	**7.0215**	**4.6000e-004**	**0.0000**	**7.0329**

3.6 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0700e-003	4.5700e-003	0.0510	1.7000e-004	0.0193	1.1000e-004	0.0195	5.1400e-003	1.0000e-004	5.2400e-003	0.0000	15.0728	15.0728	3.3000e-004	0.0000	15.0810
Total	**7.0700e-003**	**4.5700e-003**	**0.0510**	**1.7000e-004**	**0.0193**	**1.1000e-004**	**0.0195**	**5.1400e-003**	**1.0000e-004**	**5.2400e-003**	**0.0000**	**15.0728**	**15.0728**	**3.3000e-004**	**0.0000**	**15.0810**

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	0.6870					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.6200e-003	0.0387	0.0499	8.0000e-005		2.2500e-003	2.2500e-003		2.2500e-003	2.2500e-003	0.0000	7.0214	7.0214	4.6000e-004	0.0000	7.0329
Total	**0.6926**	**0.0387**	**0.0499**	**8.0000e-005**		**2.2500e-003**	**2.2500e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.0214**	**7.0214**	**4.6000e-004**	**0.0000**	**7.0329**

3.6 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	7.0700e-003	4.5700e-003	0.0510	1.7000e-004	0.0193	1.1000e-004	0.0195	5.1400e-003	1.0000e-004	5.2400e-003	0.0000	15.0728	15.0728	3.3000e-004	0.0000	15.0810
Total	**7.0700e-003**	**4.5700e-003**	**0.0510**	**1.7000e-004**	**0.0193**	**1.1000e-004**	**0.0195**	**5.1400e-003**	**1.0000e-004**	**5.2400e-003**	**0.0000**	**15.0728**	**15.0728**	**3.3000e-004**	**0.0000**	**15.0810**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2200	1.8973	2.7559	0.0127	0.9890	8.8000e-003	0.9978	0.2650	8.2400e-003	0.2732	0.0000	1,179.6270	1,179.6270	0.0581	0.0000	1,181.0793
Unmitigated	0.2200	1.8973	2.7559	0.0127	0.9890	8.8000e-003	0.9978	0.2650	8.2400e-003	0.2732	0.0000	1,179.6270	1,179.6270	0.0581	0.0000	1,181.0793

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Retirement Community	858.27	548.73	466.32	2,590,396	2,590,396
Total	858.27	548.73	466.32	2,590,396	2,590,396

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Retirement Community	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965
Retirement Community	0.545527	0.036856	0.186032	0.115338	0.015222	0.004970	0.017525	0.069528	0.001397	0.001160	0.004547	0.000932	0.000965

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.4807	323.4807	0.0134	2.7600e-003	324.6380
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	323.4807	323.4807	0.0134	2.7600e-003	324.6380
NaturalGas Mitigated	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	167.0540	167.0540	3.2000e-003	3.0600e-003	168.0468
NaturalGas Unmitigated	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	167.0540	167.0540	3.2000e-003	3.0600e-003	168.0468

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	3.13047e+006	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	167.0540	167.0540	3.2000e-003	3.0600e-003	168.0468
Total		**0.0169**	**0.1443**	**0.0614**	**9.2000e-004**		**0.0117**	**0.0117**		**0.0117**	**0.0117**	**0.0000**	**167.0540**	**167.0540**	**3.2000e-003**	**3.0600e-003**	**168.0468**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Retirement Community	3.13047e+006	0.0169	0.1443	0.0614	9.2000e-004		0.0117	0.0117		0.0117	0.0117	0.0000	167.0540	167.0540	3.2000e-003	3.0600e-003	168.0468
Total		**0.0169**	**0.1443**	**0.0614**	**9.2000e-004**		**0.0117**	**0.0117**		**0.0117**	**0.0117**	**0.0000**	**167.0540**	**167.0540**	**3.2000e-003**	**3.0600e-003**	**168.0468**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.01525e+006	323.4807	0.0134	2.7600e-003	324.6380
Total		**323.4807**	**0.0134**	**2.7600e-003**	**324.6380**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	1.01525e+006	323.4807	0.0134	2.7600e-003	324.6380
Total		**323.4807**	**0.0134**	**2.7600e-003**	**324.6380**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8893	0.0594	2.0955	3.4000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	44.4238	44.4238	4.0800e-003	7.5000e-004	44.7499
Unmitigated	0.8893	0.0594	2.0955	3.4000e-004		0.0144	0.0144		0.0144	0.0144	0.0000	44.4238	44.4238	4.0800e-003	7.5000e-004	44.7499

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	0.0687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.1500e-003	0.0354	0.0151	2.3000e-004		2.8600e-003	2.8600e-003		2.8600e-003	2.8600e-003	0.0000	41.0274	41.0274	7.9000e-004	7.5000e-004	41.2712
Landscaping	0.0632	0.0240	2.0804	1.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	3.3963	3.3963	3.2900e-003	0.0000	3.4787
Total	**0.8893**	**0.0594**	**2.0955**	**3.4000e-004**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**44.4238**	**44.4238**	**4.0800e-003**	**7.5000e-004**	**44.7499**

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	0.0687					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7533					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	4.1500e-003	0.0354	0.0151	2.3000e-004		2.8600e-003	2.8600e-003		2.8600e-003	2.8600e-003	0.0000	41.0274	41.0274	7.9000e-004	7.5000e-004	41.2712
Landscaping	0.0632	0.0240	2.0804	1.1000e-004		0.0115	0.0115		0.0115	0.0115	0.0000	3.3963	3.3963	3.2900e-003	0.0000	3.4787
Total	**0.8893**	**0.0594**	**2.0955**	**3.4000e-004**		**0.0143**	**0.0143**		**0.0143**	**0.0143**	**0.0000**	**44.4238**	**44.4238**	**4.0800e-003**	**7.5000e-004**	**44.7499**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	87.7127	0.4302	0.0108	101.6826
Unmitigated	87.7127	0.4302	0.0108	101.6826

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	13.096 / 8.25615	87.7127	0.4302	0.0108	101.6826
Total		**87.7127**	**0.4302**	**0.0108**	**101.6826**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Retirement Community	13.096 / 8.25615	87.7127	0.4302	0.0108	101.6826
Total		**87.7127**	**0.4302**	**0.0108**	**101.6826**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	18.7685	1.1092	0.0000	46.4983
Unmitigated	18.7685	1.1092	0.0000	46.4983

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	92.46	18.7685	1.1092	0.0000	46.4983
Total		**18.7685**	**1.1092**	**0.0000**	**46.4983**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Retirement Community	92.46	18.7685	1.1092	0.0000	46.4983
Total		**18.7685**	**1.1092**	**0.0000**	**46.4983**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation