AIR QUALITY ANALYSIS REPORT

GOOD SHEPHERD CATHOLIC CEMETERY PROJECT

SAN DIEGO COUNTY, CALIFORNIA

LSA

March 2022

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SAN DIEGO COUNTY, CALIFORNIA

Prepared for:

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Project No. DSD1701

LSA

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EXECUTIVE SUMMARY

LSA has prepared this Air Quality Analysis for the proposed Good Shepherd Catholic Cemetery Project (project) in north San Diego County, California. This Air Quality Analysis Report provides a discussion of the proposed project, the physical setting of the project area, and the regulatory framework for air quality. The report provides data on existing air quality and evaluates potential air quality impacts associated with the proposed project. Modeled air pollutant emissions are consistent with the trip generation estimates developed for the proposed project.

This report presents an assessment of potential air quality impacts associated with the proposed project. The evaluation addresses the potential for air pollutant emissions during construction and after full buildout of the project.

The proposed use is consistent with the County of San Diego (County) zoning designation for the project site and its surrounding area, which is consistent with the County's General Plan. The County's General Plan is consistent with the San Diego County Air Pollution Control District 2016 Regional Air Quality Strategy (RAQS) and 2020 Plan for Attaining the National Ozone Standards in San Diego County. Therefore, the proposed project is consistent with the General Plan, 2020 Attainment Plan, and the 2016 RAQS.

The project would result in emissions of air pollutants during both its construction phase and operational phase. Construction emissions would include emissions associated with fugitive dust, heavy construction equipment, and construction workers commuting to and from the site. The project would incorporate measures to minimize fugitive dust control emissions, including watering three times per day during grading. Construction activities are assumed to begin in early 2022 and finish in late 2022. Short-term impacts associated with the construction activities would be less than significant.

The operational emissions associated with the project would include impacts associated with vehicular traffic, as well as area sources such as energy use, landscaping, and the use of consumer products. The project would incorporate energy-efficiency features that would comply with 2019 California Title 24 Energy Efficiency Standards. Operational emissions of VOCs, CO, NOx, SOx, PM_{10}, and $PM_{2.5}$ would not exceed the daily thresholds for any of the criteria pollutants. Emissions of CO hot spots at congested intersections would be below the screening-level thresholds for project operations. Therefore, the cumulatively considerable air quality impact would be less than significant and mitigation is not required.

An evaluation of potential odors from construction and operational activities indicated that associated impacts would be less than significant.

Air Quality Guidelines identified by the County in its *Guidelines for Determining Significance and Report Format and Content Requirements – Air Quality* (County of San Diego 2007) were followed for this Air Quality Analysis. Air quality data posted on the California Air Resources Board and United States Environmental Protection Agency websites are included to document the local air quality environment.

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LIST OF ABBREVIATIONS AND ACRONYMS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
ADA	Americans with Disabilities Act
ADT	Average Daily Trip
APN	Assessor's Parcel Number
AQIA	Air Quality Impact Assessment
ATCM	Airborne Toxic Control Measure
BACT	Best Available Control Technology
BMP	Best Management Practices
CAA	Clean Air Act
CAAQS	California ambient air quality standards
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CEQA	California Environmental Quality Act
CO	carbon monoxide
County	County of San Diego
DPM	diesel particulate matter
EMFAC	California Emission Factor Model
EPA	United States Environmental Protection Agency
H_2S	hydrogen sulfide
HAPs	hazardous air pollutants
HARP	Hot Spots Analysis and Reporting Program
HI	Hazard Index
HRA	Health Risk Assessment
lbs/day	pounds per day
LOS	level of service
MEIR	Maximally Exposed Individual Resident
NAAQS	national ambient air quality standards
NO_2	nitrogen dioxide
NOx	nitrogen oxides

O_3	ozone (or smog)
OEHHA	(California) Office of Environmental Health Hazard Assessment
Pb	lead
PDS	Planning and Development Services
PM_{10}	particulate matter smaller than or equal to 10 microns in diameter
$PM_{2.5}$	particulate matter smaller than or equal to 2.5 microns in diameter
ppm	parts per million
PVC	polyvinyl chloride
RAQS	Regional Air Quality Standards
REL	reference exposure level
ROCs	reactive organic compounds
RTP	Regional Transportation Plan
SAFE	Safer Affordable Fuel-Efficient
SANDAG	San Diego Association of Governments
SCAQMD	South Coast Air Quality Management District
SDAB	San Diego Air Basin
SDCAPCD	San Diego County Air Pollution Air District
SIP	State Implementation Plan
SLT	Screening-Level Threshold
SO_2	sulfur dioxide
SOx	sulfur oxides
SR	State Route
State	State of California
TACs	toxic air contaminants
T-BACT	Toxics Best Available Control Technology
VMT	vehicle miles traveled
VOCs	volatile organic compounds

1.0 PROJECT DESCRIPTION

1.1 PURPOSE OF THE REPORT

This Air Quality Analysis Report has been prepared to evaluate the potential air quality impacts and mitigation measures associated with the proposed Good Shepherd Catholic Cemetery Project (project) in an unincorporated area of San Diego County, California. This report provides a project-specific Air Quality Analysis by examining the impacts of the proposed project on adjacent sensitive uses, as well as the impacts of the proposed project on the regional air quality. This report also evaluates control measures that would be required as part of the project design. Guidelines identified by the County of San Diego (County) in its *Guidelines for Determining Significance and Report Format and Content Requirements* (Air Quality Guidelines; County of San Diego 2007) were updated in accordance with the State of California (State) *California Environmental Quality Act (CEQA) Guidelines* for 2021 (CEQA Guidelines*)* in this analysis.

1.2 PROJECT LOCATION AND DESCRIPTION

The project site is located on the west side of Buena Vista Drive at Keys Place in an unincorporated area of the County of San Diego, California surrounded by the Cities of Vista and Oceanside. Figure 1 shows the project location. The project site comprises four parcels (Assessor's Parcel Numbers [APNs] 169-210-02, 169-220-01, 169-220-02, and 169-220-03). All four parcels are currently owned by the Roman Catholic Church. A majority of the project site is currently vacant and undeveloped. The northwest portion of the project site, comprising APNs 169-210-02, is unpaved/ungraded and features scattered ruderal vegetation. Leticia's Nursery is located on the southern portions of the project site, on APNs 169-220-03, 169-220-01, and 169-220-02, and is bisected by Keys Place, a roadway that terminates near the center of the proposed project site. A single residence is located on APN 169-220-02 at 1505 Buena Vista Drive.

The proposed project would include the clearing and grading of the majority of the site, including the removal of existing facilities associated with Leticia's Nursery, an abandoned trailer and car on site, and various utility-related infrastructure. The proposed project would also require the realignment of Keys Place to accommodate the proposed on-site circulation system. The residence at 1505 Buena Vista Drive would be renovated and repurposed as an administrative office. The proposed project would include a cemetery with the administrative office, 220-square foot gatehouse, landscaping, internal circulation system, and utility improvements on a 14.49-acre site. The site is intended to be fully developed over time with the cemetery use and gravesite locations. Figure 2 presents the project site plan.

Upon project implementation, APN 169-210-02 would contain the chapel. The chapel would be one story in height, with no interior rooms. The existing residence at 1505 Buena Vista Drive would be slightly modified to include a new covered patio, new entryway, and new parking area to the rear of the structure with designated Americans with Disabilities Act of 1980 (ADA)-accessible parking spaces.

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LEGEND

Project Location

FIGURE 1

N

0 125 250

FEET

SOURCE: Bing Maps, 2019

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Good Shepherd Cemetery Project

Project Location

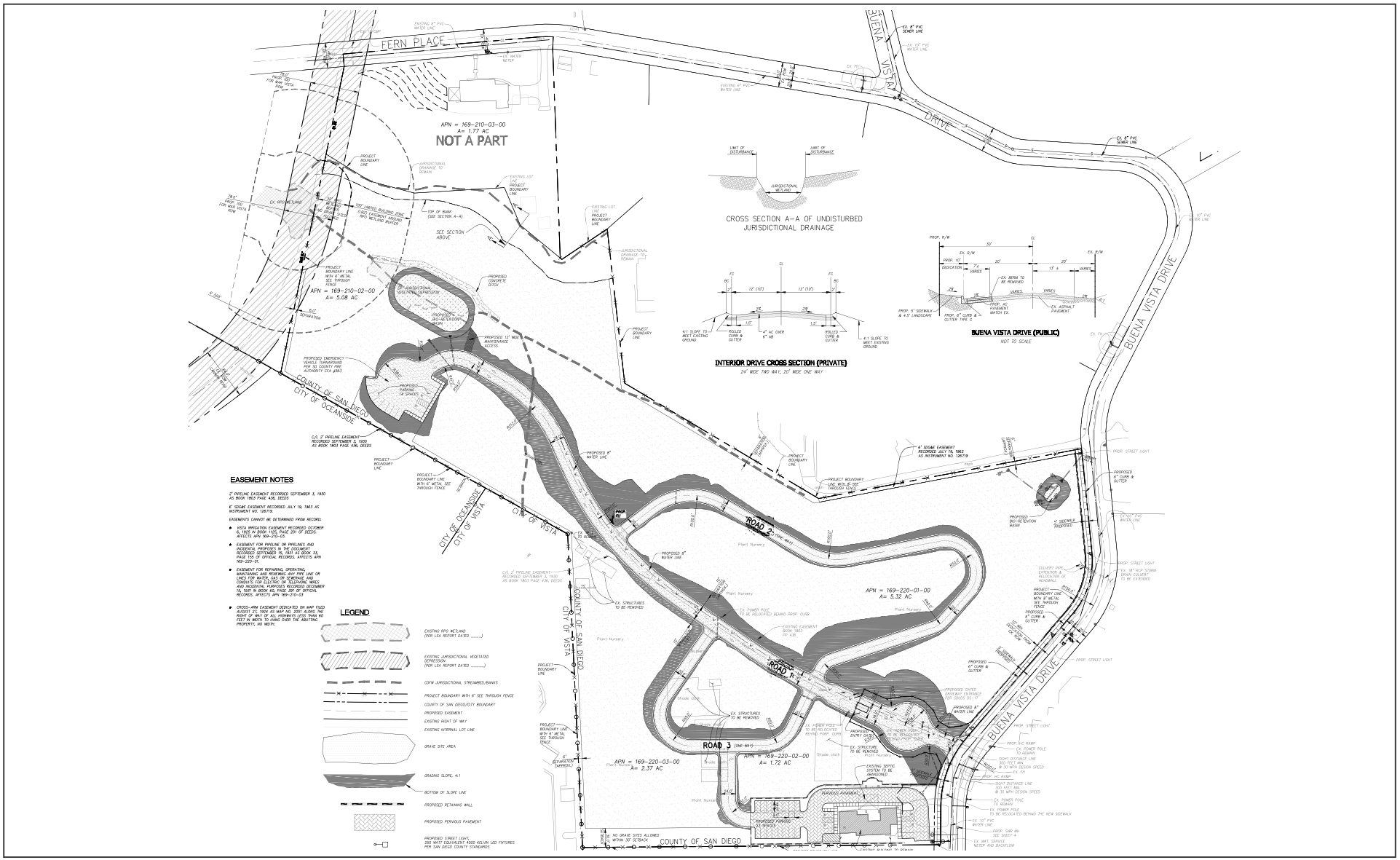

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FIGURE 2

N

0 110 220

FEET

SOURCE: Hofman Planning + Engineering

I:\DSD1701\G\Site_Plan.ai (6/16/2021)

Good Shepherd Cemetery Project

Site Plan

The proposed cemetery would provide opportunities for visitation to gravesite areas, as well as the use of an on-site chapel. During project operation, the site would be accessible to the public from dawn until dusk. The proposed cemetery would employ administrative staff and groundskeepers. It is anticipated that hours of operation for the administrative office would follow standard working hours, approximately 8:00 a.m. to 5:00 p.m., Monday through Friday. Groundskeepers may be present on site at other hours or on other days, depending on need. Staff would arrive and remain on site at staggered times throughout each working day.

Primary users of the site are anticipated to be residents of the neighboring communities and patrons of the Roman Catholic Church. The cemetery use will generate approximately 138 Average Daily Trips (ADT).[1] Because the County threshold for a traffic study is 200 ADT, the proposed project would not require a traffic study.

With the exception of the northern portion of APN 169-210-03 and a drainage feature in this area, the project site will be fully developed. The Diocese will implement an off-site mitigation program for impacts to drainage features within the project site.

California Green Code Sections 5.106.5.3 and A5.106.5.3 require electric vehicle charging infrastructure in the parking lots for new, nonresidential buildings. California Green Code Section 5.106.5.2 requires designated parking for clean air vehicles in new construction or alterations that add 10 or more vehicular parking spaces. Furthermore, California Green Code Section 5.106.4 requires short-term and long-term bicycle parking for new construction adding more than nine visitor parking spaces. The proposed project would comply with all of the above State requirements.

The project site is bounded by Buena Vista Drive to the east, residential development to the north and northwest, natural drainages adjacent to the St. Thomas More Catholic Church and residential development to the southwest. The project site is primarily surrounded by residential uses, the Rancho Vista Nursery, and St. Thomas More Catholic Church. According to the County of San Diego General Plan Land Use Map, surrounding land use designations are Landscape/Open Space, Single-Family Detached, Multi-Family Residential, Open Space or Park Preserve, and Intensive Agriculture.

Planned land use designations in the vicinity include Institutions, Mobile Home, Recreation, Single-Family Residential, Spaced Rural Residential, Multi-Family Residential, and Commercial and Office.

1.3 BEST MANAGEMENT PRACTICES

The project would incorporate best management practices (BMPs) during construction to reduce emissions of fugitive dust. San Diego County Air Pollution Control District (SDCAPCD) Rule 55 – Fugitive Dust Control states that no dust and/or dirt shall leave the property line. SDCAPCD Rule 55 requires the following:

(1) **Airborne Dust Beyond the Property Line:** No person shall engage in construction or demolition activity subject to this rule in a manner that discharges visible dust emissions into the

[1] ADT is based on the Institute of Transportation Engineers Trip Generation Manual (10th Edition) Cemetery Trip Generation Rate of 9.524 trips per acre. 14.49 × 9.524 = 138.

atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

(2) **Track-Out/Carry-Out:** Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall:

(i) Be minimized by the use of any of the following or equally effective track-out/carry-out and erosion control measures that apply to the project or operation:

(a) Track-out grates or gravel beds at each egress point;

(b) Wheel-washing at each egress during muddy conditions, soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; and

(c) For outbound transport trucks, using secured tarps or cargo covering, watering, or treating of transported material; and

(ii) Be removed at the conclusion of each workday when active operations cease, or every 24 hours for continuous operations. If a street sweeper is used to remove any track-out/carry-out, only PM_{10}-efficient street sweepers certified to meet the most current South Coast Air Quality Management District (SCAQMD) Rule 1186 requirements shall be used. The use of blowers for removal of track-out/carry-out is prohibited under any circumstances.

The control measures listed below are the BMPs that the project would incorporate for dust control and minimizing pollutant emissions from diesel equipment:

- A minimum of three applications of water during grading between dozer/grader passes.
- Paving, chip sealing, or chemical stabilization of internal roadways after completion of grading.
- Use of sweepers or water trucks to remove "track-out" at any point of public street access.
- Termination of grading if winds exceed 25 mph.
- Stabilization of dirt storage piles by chemical binders, tarps, fencing or other erosion control.
- Hydroseeding of graded parcel lots unless lots are developed immediately after grading.
- The project will require the construction fleet to use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or utilize California Air Resources Board (CARB)/U.S. Environmental Protection Agency (EPA) Engine Certification Tier level, or other equivalent methods approved by the CARB.
- Use of low-VOC [volatile organic compound] coatings in accordance with SDCAPCD Rule 67.

1.4 AIR QUALITY ASSESSMENT

This air quality assessment includes a discussion of applicable significance criteria and analysis methodologies outlined in the County's "Guidelines for Determining Significance—Air Quality" guidance document. The new State *CEQA Guidelines* for 2021 would slightly modify the format and content of the air quality report as outlined in the County's "Guidelines for Determining Significance and Report Format and Content Requirements—Air Quality" guidance document.

The new State *CEQA Guidelines* for 2021 indicate that a project would have a significant adverse air quality impact if project-generated pollutant emissions would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under applicable federal or State ambient air quality standards;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Result in other emissions (such as those leading to odors affecting a substantial number of people).

Based on the County's guidance document and the new State *CEQA Guidelines* for 2021, this assessment evaluates the short-term construction-period and long-term operational impacts to localized and regional air quality that would result with development of the project.

2.0 EXISTING CONDITION

2.1 EXISTING SETTING

The approximately 14.63-acre project site is in an unincorporated area in northern San Diego County. Regional access to the site is from State Route 78 (SR-78), about 2 miles to the north, via Melrose Drive and Buena Vista Drive (see Figure 1). Buena Vista Drive and Keys Place are the main roadways serving the project site. Melrose Drive, Sycamore Drive, and Palomar Airport Road provide circulation between the highways and the roadways directly serving the project site. The site is at 1505 Buena Vista Drive. Site access is from Buena Vista Drive via a driveway next to the east edge of the parcel. The project site consists of four parcels.

2.2 CLIMATE/METEOROLOGY AND TEMPERATURE INVERSIONS

The project site is located in the San Diego Air Basin (SDAB), the boundaries of which are contiguous with the political boundaries of San Diego County. San Diego County encompasses approximately 4,260 square miles and is bounded on the north by Orange and Riverside Counties, on the east by Imperial County, on the west by the Pacific Ocean, and on the south by the Mexican state of Baja California. The climate of San Diego County is characterized by hot, dry summers and mild, wet winters and is dominated by a semi-permanent, high-pressure cell located over the Pacific Ocean.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east. Along with local meteorology, the topography influences the dispersal and movement of pollutants in the basin. San Diego County is divided by the Laguna Mountain Range, which runs approximately parallel to the coast about 45 miles inland and separates the coastal area from the desert portion of the county. The Laguna Mountains have peaks reaching over 6,000 feet, with the highest point in the county being Hot Springs Mountain, which rises to 6,533 feet. The mountains to the east prohibit dispersal of pollutants in that direction and help trap them in inversion layers.

The interaction of ocean, land, and the Pacific High Pressure Zone maintains clear skies for much of the year and influences the direction of prevailing winds (westerly to northwesterly). Local terrain is often the dominant factor inland, and winds in inland mountainous areas tend to blow through the valleys during the day and down the hills and valleys at night.

The SDAB experiences frequent temperature inversions. Subsidence inversions occur during the warmer months as descending air associated with the Pacific High Pressure Zone meets cool marine air. The boundary between the two layers of air creates a temperature inversion that traps pollutants.

Another type of inversion, a radiation inversion, develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. The shallow inversion layer formed between these two air masses also can trap pollutants. As the pollutants become more concentrated in the atmosphere, photochemical reactions occur that produce ozone (O_3), commonly known as smog.

Light daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to carbon monoxide (CO) and oxides of nitrogen (NOx) emissions. CO concentrations are generally higher in the morning and late evening. In the morning, CO levels are elevated due to cold temperatures and the large number of motor vehicles traveling. Higher CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the basin are associated with heavy traffic. Nitrogen dioxide (NO_2) levels are also generally higher during fall and winter days when O_3 concentrations are lower.

Under certain conditions, atmospheric oscillation results in the offshore transport of air from the Los Angeles region to San Diego County. This often produces high O_3 concentrations, as measured at air pollutant monitoring stations within the County. The transport of air pollutants from Los Angeles to San Diego has also occurred within the stable layer of the elevated subsidence inversion, where high levels of O_3 are transported.

2.2.1 Site-Specific Meteorological Conditions

Wind monitoring data recorded at the Carlsbad Palomar Airport Meteorological Station indicate that the predominant wind direction near the project site is from the southwest. Average wind speed in the vicinity is approximately 5.6 miles per hour (2.5 meters per second). Figure 3 provides a graphic representation of the prevailing winds in the project vicinity, as measured at the Carlsbad Palomar Airport Meteorological Station (the closest meteorological monitoring station to the site). The annual average temperature in the project area is approximately 51.9 degrees Fahrenheit (°F) during the winter and approximately 74.0°F during the summer. Total precipitation in the project area averages approximately 13.1 inches annually (Iowa Environmental Mesonet 2019). Precipitation occurs mostly during the winter and relatively infrequently during the summer.

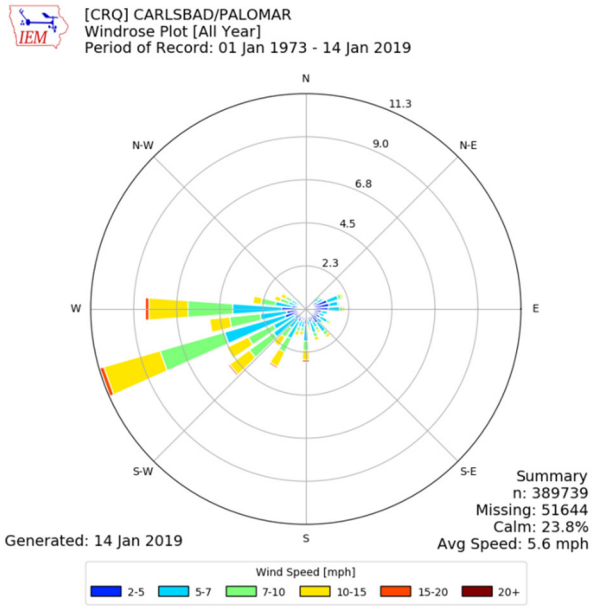

Figure 3: Windrose-Carlsbad Palomar Airport Meteorological Station

2.2.2 Air Pollutants of Concern

Criteria Air Pollutants

Federal and State laws regulate air pollutants emitted into the ambient air by stationary and mobile sources. These regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary standards. Primary standards are set of limits based on human health. Another set of limits intended to prevent environmental and property damage is called secondary standards. Criteria pollutants are defined by State and federal law as a risk to the health and welfare of the general public.

The following specific descriptions of health effects for each air pollutant associated with project construction and operation are based on EPA (EPA 2007) and CARB (CARB 2009).

- **Ozone.** O_3 is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and NOx, both by-products of fuel combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.
- **Carbon Monoxide.** CO is a product of fuel combustion, and the main source of CO in the SDAB is from motor vehicle exhaust. CO is an odorless, colorless gas. CO affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. CO can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.
- **Nitrogen Dioxide.** NO_2 is also a by-product of fuel combustion and is formed both directly as a product of combustion and in the atmosphere through the reaction of NOx with oxygen. NO_2 is a respiratory irritant and may affect those with existing respiratory illness, including asthma. NO_2 can also increase the risk of respiratory illness.
- **Respirable Particulate Matter and Fine Particulate Matter.** Respirable particulate matter, or PM_{10}, refers to particulate matter with an aerodynamic diameter of 10 microns or less. Fine particulate matter, or $PM_{2.5}$, refers to particulate matter with an aerodynamic diameter of 2.5 microns or less. Particulate matter in these size ranges has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, fuel combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.
- **Sulfur Dioxide.** Sulfur dioxide (SO_2) is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO_2 are found near large industrial sources. SO_2 is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to SO_2 can cause respiratory illness and aggravate existing cardiovascular disease.

- **Lead.** Lead (Pb) in the atmosphere occurs as particulate matter. Pb has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the sources of the largest amounts of lead emissions. Pb has the potential to cause gastrointestinal, central nervous system, kidney and blood diseases upon prolonged exposure. Pb is also classified as a probable human carcinogen.
- **Sulfates.** Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of SO_2 to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CARB's sulfates standard is designed to prevent aggravation of respiratory symptoms. Effects of sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardiopulmonary disease. Sulfates are particularly effective in degrading visibility and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.
- **Hydrogen Sulfide.** Hydrogen sulfide (H_2S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. In addition, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the standard would result in exposure to a very disagreeable odor. In 1984, the CARB committee concluded that the ambient standard for H_2S is adequate to protect public health and to reduce odor annoyance significantly.
- **Vinyl Chloride.** Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.
- **Visibility-Reducing Particles.** Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt. These particles in the atmosphere would obstruct the range of visibility. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze.

Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. The State list of TACs identifies about 700-plus substances and the federal list of hazardous air pollutants (HAPs) identifies 189 substances. A number of sources—including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile

sources, such as automobiles; and area sources, such as landfills—generate TACs. Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced on either short-term (acute) or long-term (chronic) exposure to a given TAC. Examples include certain aromatic and chlorinated hydrocarbons, certain metals, asbestos, 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (DPM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter.

DPM is part of a complex mixture that makes up diesel exhaust. Diesel exhaust is composed of two phases, gas and particle, both of which contribute to health risks. CARB classified "particulate emissions from diesel-fueled engines" (i.e., DPM) as a TAC in August 1998. DPM is emitted from a broad range of diesel engines: on-road diesel engines of trucks, buses, and cars and off-road diesel engines including locomotives, marine vessels, and heavy-duty construction equipment, among others. Approximately 70 percent of all airborne cancer risk in California is associated with DPM (CARB 2000). To reduce the cancer risk associated with diesel particulate matter, CARB adopted a Diesel Risk Reduction Plan in 2000.

2.3 REGULATORY SETTING

2.3.1 Federal

The Federal Clean Air Act (CAA), passed in 1970 and last amended in 1990, forms the basis for the national air pollution control effort. The EPA is responsible for implementing most aspects of the CAA, including the setting of National Ambient Air Quality Standards (NAAQS) for major air pollutants, hazardous air pollutant standards, approval of state attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O_3 protection, and enforcement provisions.

NAAQS are established by the EPA for "criteria pollutants" under the CAA, which are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and Pb.

The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. The CAA requires the EPA to reassess the NAAQS at least every five years to determine whether adopted standards are adequate to protect public health based on current scientific evidence. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames.

In 2012, the EPA and the National Highway Traffic Safety Administration promulgated new rules to set GHG emission and fuel economy standards for new motor vehicles. The rules created requirements for model years 2017–2021 and 2022–2025, which would become more stringent each year, achieving greater GHG reductions over time. On March 31, 2020, the agencies issued the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule that increases the stringency of Corporate Average Fuel Economy (CAFE) and CO_2 emissions standards by 1.5 percent each year through model year 2026.

2.3.2 State

California Clean Air Act

The California Clean Air Act (CCAA) was adopted in 1988 and establishes the State's air quality goals, planning mechanisms, regulatory strategies, and standards of progress.

Under the CAA, the task of air quality management and regulation was legislatively granted to the CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. The CARB is responsible for ensuring implementation of the CCAA, responding to the CAA, and regulating emissions from mobile sources, such as motor vehicles and construction equipment, and consumer products. Pursuant to the authority granted to it, the CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table A, Ambient Air Quality Standards, on the following page, presents the NAAQS and CAAQS.

Table B, Summary of Health Effects of the Major Criteria Air Pollutants, on the third page following, summarizes the primary health effects and sources of common air pollutants. Because the NAAQS concentration standards were set by the EPA at a level that protects public health with an adequate margin of safety, these health effects would not occur unless the NAAQS are exceeded by a large margin or for a prolonged period.

Each nonattainment area must submit an SIP outlining the combination of local, State, and federal actions and emission control regulations necessary to bring the area into attainment as expeditiously as practicable. Then, even after the nonattainment area attains the air quality standard, it will remain designated a nonattainment area unless and until the State submits to EPA a formal request for redesignation to attainment. The request must include a "maintenance" plan demonstrating that the area will maintain compliance with that NAAQS for at least 10 years after EPA redesignates the area to attainment.

In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code (§39655, subd. (a).) defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the CAA (42 USC Sec. 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Cancer Risk. One of the primary health risks of concern due to exposure to TACs is the risk of contracting cancer. The carcinogenic potential of TACs is a particular public health concern because it is currently believed by many scientists that there is no "safe" level of exposure to carcinogens; that is, any exposure to a carcinogen poses some risk of causing cancer. Health statistics show that

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1-Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		53 ppb (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	—		—	0.5 ppm (1300 µg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: CARB. Ambient Air Quality Standards (2016).

The footnotes for this table are provided on the following page.

Footnotes:

1 California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1- and 24-hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O_3, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/^{3}, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, the new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12 The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

14 In 1989, the CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m^3 = micrograms per cubic meter
CARB = California Air Resources Board
EPA = United States Environmental Protection Agency
mg/m^3 = milligrams per cubic meter
ppb = parts per billion
ppm = parts per million

Table B: Summary of Health Effects of the Major Criteria Air Pollutants

Pollutant	Health Effects	Examples of Sources
Particulate matter ($PM_{2.5}$ and PM_{10}: less than or equal to 2.5 or 10 microns, respectively)	● Hospitalizations for worsened heart diseases ● Emergency room visits for asthma ● Premature death	● Cars and trucks (especially diesels). ● Fireplaces, woodstoves. ● Windblown dust from roadways, agriculture, and construction.
Ozone (O_3)	● Cough, chest tightness ● Difficulty taking a deep breath ● Worsened asthma symptoms ● Lung inflammation	● Precursor sources:[1] motor vehicles, industrial emissions, and consumer products.
Carbon monoxide (CO)	● Chest pain in heart patients[2] ● Headaches, nausea[2] ● Reduced mental alertness2 ● Death at very high levels[2]	● Any source that burns fuel, such as cars, trucks, construction and farming equipment, and residential heaters and stoves.
Nitrogen dioxide (NO_2)	● Increased response to allergens	● See CO sources.
Toxic air contaminants	● Cancer ● Chronic eye, lung, or skin irritation ● Neurological and reproductive disorders	● Cars and trucks (especially diesels). ● Industrial sources, such as chrome platers. ● Neighborhood businesses, such as dry cleaners and service stations. ● Building materials and products.

Source: CARB Fact Sheet: Air Pollution and Health. Website: www.arb.ca.gov/resources/common-air-pollutants (accessed May 2021).

[1] O_3 is not generated directly by these sources. Rather, chemicals emitted by these precursor sources react with sunlight to form O_3 in the atmosphere.

[2] Health effects from CO exposures occur at levels considerably higher than ambient.

CARB = California Air Resources Board

one in four people will contract cancer over their lifetime, or 250,000 in one million, from all causes, including diet, genetic factors, and lifestyle choices.

Noncancer Health Risks. Unlike carcinogens, it is believed that there is a threshold level of exposure to most noncarcinogens, below which they will not pose a health risk. CalEPA and the California Office of Environmental Health Hazard Assessment (OEHHA) have developed reference exposure levels (RELs) for noncarcinogenic TACs that are health-conservative estimates of the levels of exposure at or below which health effects are not expected. The non-cancer health risk due to exposure to a TAC is assessed by comparing the estimated level of exposure to the REL. The comparison is expressed as the ratio of the estimated exposure level to the REL, called the hazard index (HI).

The following CARB-adopted regulatory measures and Health & Safety Code requirements pertain to the reduction of DPM (the primary TAC associated with the proposed project's construction-related activities) and other criteria pollutant emissions from onsite road and off-road vehicles:

- **Idling of Commercial Heavy Duty Trucks (13 Section CCR 2485).** In July 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to control emissions from idling trucks. The ATCM prohibits idling for more than 5 minutes for all commercial trucks with a gross vehicle weight rating over 10,000 pounds. The ATCM contains an exception that allows trucks to idle while queuing or involved in operational activities.

- **In-Use Off-Road Diesel-Fueled Fleets (13 CCR Section 2449 et seq.).** In July 2007, the CARB adopted an ATCM for in-use off-road diesel vehicles. This regulation required that specific fleet average requirements be met for NOx emissions and for particulate matter emissions. Where average requirements cannot be met, best available control technology (BACT) requirements apply.

Correspondingly, the fleet average targets were made more stringent in future compliance years. The regulations would also accelerate the phase-out of equipment with older equipment added to existing large and medium fleets over time, requiring the addition of Tier 2 or higher engines starting on March 1, 2011, with some exceptions: Tier 2 or higher engines on January 1, 2013, without exception; and Tier 3 or higher engines on January 1, 2018 (January 1, 2023, for small fleets).

On October 28, 2011 (effective December 14, 2011), the Executive Officer approved amendments to the regulation. The amendments included revisions to the applicability section and additions and revisions to the definition. The initial date for requiring the addition of Tier 2 or higher engines for large and medium fleets, with some exceptions, was revised to January 1, 2012. New provisions would allow removal of emission control devices for safety or visibility purposes. The regulation was amended to combine the particulate matter and NOx fleet average targets under one, instead of two, sections. The amended fleet average targets are based on the NOx fleet average, and the previous section regarding particulate matter performance requirements was deleted completely. The BACT requirements, if a fleet cannot comply with the fleet average requirements, were restructured and clarified. Other amendments to the regulations included minor administrative changes to the regulatory text.

California Health and Safety Code Section 41700

This section of the Health and Safety Code states that a person shall not discharge, from any source whatsoever, quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This section also applies to sources of odors.

2.3.3 Local

San Diego County Air Pollution Control District

The local air district has the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations.

The CCAA provides the SDCAPCD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution include any facility, building, structure, or installation, or combination thereof, that attracts or generates mobile-source activity that results in emissions of any pollutant. In addition, the local air districts also manage area-source emissions that are generated when minor sources collectively emit a substantial amount of pollution (e.g., motor

vehicles at an intersection, a mall, and on highways). Direct emissions from motor vehicles are regulated by the CARB.

In San Diego County, O_3 and particulate matter are the pollutants of main concern, since exceedances of CAAQS for those pollutants are commonly experienced. For this reason, the SDAB has been designated as a nonattainment area for the State PM_{10}, $PM_{2.5}$, and O_3 standards. The SDAB is also a federal O_3 attainment (maintenance) area for 1997 8-hour O_3 standard, an O_3 nonattainment area for the 2008 8-hour O_3 standard, and a CO maintenance area (western and central part of the SDAB only, including the project site). The portion of the SDAB where the project is located is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

SDCAPCD Rules and Regulations. As stated above, the SDCAPCD is responsible for planning, implementing, and enforcing NAAQS and CAAQS in the SDAB. The following rules and regulations apply to all sources within the jurisdiction of SDCAPCD, and would apply to the proposed project:

1. *SDCAPCD Regulation IV: Prohibitions; Rule 51: Nuisance.* Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property (SDCAPCD 1969).
2. *SDCAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust.* Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site (SDCAPCD 2009b).
3. *SDCAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings.* Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories (SDCAPCD 2001).

SDCAPCD Guidance on the Preparation of Health Risk Assessments (HRAs). As discussed above, SDCAPCD Rule 1210 (Toxic Air Contaminants Public Health Risks—Public Notification and Risk Reduction) is applicable to stationary sources under SDACPD's jurisdiction that are required to prepare a public HRA pursuant to Section 44360 of the Health and Safety Code. Rule 1210 serves as the foundation for the County's "Air Quality CEQA Guidelines for Determining Significance" (2007) for purposes of determining incremental cancer risk and health hazard index impacts. Additionally, SDCAPCD's "Supplemental Guidelines for Submission of Air Toxics 'Hot Spots' Program Health Risk Assessments" (2015) address the specific modeling and user default options for the risk evaluation incorporated into the Hot Spots Analysis and Reporting Program (HARP) developed by CARB, OEHHA, and the California Air Pollution Control Officers Association (CAPCOA). (HARP is the program used for preparing HRAs.) The Supplemental Guidelines established the required elements of an HRA and the thresholds to be used for cancer risk and non-cancer related acute and chronic health risk.

County Code Section 87.428, Dust Control Measures

As part of the San Diego County Grading, Clearing, and Watercourses Ordinance, County Code Section 87.428 requires all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading, or improvement plans shall require that measures such as the following be undertaken to achieve this result: watering, application of surfactants, shrouding, control of vehicle speeds, paving of access areas, or other operational or technological measures to reduce dispersion of dust. These project design measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction (County of San Diego 2004).

2.4 BACKGROUND AIR QUALITY

The SDCAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. There is no ambient air monitoring station near the project site. The nearest ambient monitoring stations to the project site are the Camp Pendleton station (monitoring O_3 and NO_2) approximately 8 miles west of the project site, Rancho Carmel station (monitoring CO) approximately 17 miles southeast of the project site, Kearny Villa station (monitoring $PM_{2.5}$) approximately 25 miles southeast of the project site, and El Cajon station (monitoring PM_{10} and SO_2) approximately 32 miles southeast of the project site. Because all of these monitoring stations are located in areas where there is substantial traffic congestion, it is likely that pollutant concentrations measured at these monitoring stations are higher than concentrations that would be observed or measured in the project area, and would thus provide a conservative estimate of background ambient air quality.

The air quality trends from these stations are used to represent the ambient air quality in the project area. The ambient air quality data in Table C show that CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$ levels are below the applicable State and federal standards.

The State 1-hour O_3 standard was never exceeded in the past three years. The State 8-hour O_3 standard was exceeded 5 days per year in 2017, but was not exceeded in 2018 and 2019. The federal 8-hour O_3 standard was exceeded 4 days per year in 2017 and was not exceeded in 2018 and 2019.

The SDAB is designated as an attainment area for the 1997 8-hour O_3 NAAQS and as a nonattainment area for the 2008 8-hour O_3 NAAQS. The SDAB is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS. The SDAB is designated as attainment or unclassifiable/unclassified for all other criteria pollutants under the NAAQS and CAAQS.

Table C: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2018	2019	2020
Carbon Monoxide (CO)— Rancho Carmel Monitoring Station				
Maximum 1-hour concentration (ppm)		1.9	4.1	3.3
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.4	2.5	1.7
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9.0 ppm	0	0	0
Ozone (O_3)—Camp Pendleton Monitoring Station				
Maximum 1-hour concentration (ppm)		0.084	0.075	0.094
Number of days exceeded:	State: > 0.12 ppm	0	0	0
Maximum 8-hour concentration (ppm)		0.068	0.065	0.074
Number of days exceeded:	State: > 0.07 ppm	0	0	3
	Federal: > 0.07 ppm	0	0	3
Coarse Particulates (PM_{10})— El Cajon Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		43.00	38.0	55.0
Number of days exceeded:	State: > 50 µg/m^3	0	0	2
	Federal: > 150 µg/m^3	0	0	0
Annual arithmetic average concentration (µg/m^3)		22.7	19.4	23.5
Exceeded for the year:	State: > 20 µg/m^3	Yes	No	Yes
Fine Particulates ($PM_{2.5}$)— Kearny Villa Monitoring Station				
Maximum 24-hour concentration (µg/m^3)		32.2	16.2	47.5
Number of days exceeded:	Federal: > 35 µg/m^3	0	0	1
Annual arithmetic average concentration (µg/m^3)		8.3	7.0	9.0
Exceeded for the year:	State: > 12 µg/m^3	No	No	No
	Federal: > 15 µg/m^3	No	No	No
Nitrogen Dioxide (NO_2)—Camp Pendleton Monitoring Station				
Maximum 1-hour concentration (ppm)		0.048	0.053	0.058
Number of days exceeded:	State: > 0.18 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.006	0.005	0.005
Exceeded for the year:	State: > 0.030 ppm	No	No	No
	Federal: > 0.053 ppm	No	No	No
Sulfur Dioxide (SO_2)—El Cajon Monitoring Station				
Maximum 1-hour concentration (ppm)		0.004	0.0008	0.002
Number of days exceeded:	State: > 0.25 ppm	0	0	0
	Federal: > 0.075 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.0003	0.0002	0.0002
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No

Source 1: United States Environmental Protection Agency. AirData: 2018–2020 Air Quality Data. Website: www.epa.gov/outdoor-air-quality-data/monitor-values-report (accessed May 2021).
Source 2: California Air Resources Board. iADAM: Air Quality Data Statistics. Website: www.arb.ca.gov/adam (accessed May 2021).
ND = No Data

g/m^3 = micrograms per cubic meter
$PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter
PM_{10} = particulate matter smaller than or equal to 10 microns in diameter
ppm = parts per million

2.4.1 Regional Air Quality Strategy Plan

The SDCAPCD has adopted air quality plans to improve air quality, protect public health, and protect the climate. The San Diego Regional Air Quality Strategy (RAQS) outlines SDCAPCD's plans and control measures designed to attain and maintain the State standards, while San Diego's portions of the SIP are designed to attain and maintain federal standards. The RAQS was initially adopted in 1991 and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, 2009, and most recently in December 2016. The RAQS does not currently address the CAAQS for $PM_{2.5}$ and PM_{10}.

SDCAPCD has also developed the SDAB's input to the SIP, which is required under the CAA for areas that are out of attainment of air quality standards. Both the RAQS and SIP demonstrate the effectiveness of CARB measures (mainly for mobile sources) and the SDCAPCD's plans and control measures (mainly for stationary and area wide sources) for attaining the O_3 NAAQS. The SIP is also updated on a triennial basis. SDCAPCD adopted its attainment plan and Reasonable Available Control Technology Demonstration for the 2008 8-hour O_3 NAAQS. In addition, the Measures to Reduce Particulate Matter in San Diego County Report (SDCAPCD 2005) proposes measures to reduce particulate matter emissions and recommends measures for further detailed evaluation and, if appropriate, future rule development (or non-regulatory development, if applicable), adoption, and implementation in San Diego County, in order to attain particulate matter CAAQS.

The RAQS relies on information from the CARB and the San Diego Association of Governments (SANDAG), including mobile and area source emissions, as well as information regarding projected growth in the County, to project future emissions and then determine from that the strategies necessary for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development that is less dense than anticipated by the General Plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated by the General Plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the SDAB. The SIP also includes rules and regulations that have been adopted by the SDCAPCD to control emissions from stationary sources. These SIP-approved rules may be used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

County of San Diego General Plan

The County General Plan includes various goals, objectives, and policies that help to improve air quality conditions, including the following policies from the land use element.

- *GOAL LU-5 Climate Change and Land Use.* A land use plan and associated development techniques and patterns that reduce emissions of local greenhouse gases in accordance with State initiatives, while promoting public health.
    - *Policy LU-5.2: Sustainable Planning and Design.* Incorporate into new development sustainable planning and design.
    - *Policy LU-5.3: Rural Land Preservation.* Ensure the preservation of existing open space and rural areas (e.g., forested areas, agricultural lands, wildlife habitat and corridors, wetlands, watersheds, and groundwater recharge areas) when permitting development under the Rural and Semi-Rural Land Use Designations.
- *GOAL LU-6 Development—Environmental Balance.* A built environment in balance with the natural environment, scarce resources, natural hazards, and the unique local character of individual communities.
    - *Policy LU-6.1: Environmental Sustainability.* Require the protection of intact or sensitive natural resources in support of the long-term sustainability of the natural environment.
    - *Policy LU-6.2: Reducing Development Pressures.* Assign lowest-density or lowest-intensity land use designations to areas with sensitive natural resources.
- *GOAL LU-10 Function of Semi-Rural and Rural Lands.* Semi-Rural and Rural Lands that buffer communities, protect natural resources, foster agriculture, and accommodate unique rural communities.
    - *Policy LU-10.2: Development—Environmental Resource Relationship.* Require development in Semi-Rural and Rural areas to respect and conserve the unique natural features and rural character, and avoid sensitive or intact environmental resources and hazard areas.

The County had previously adopted a Climate Action Plan (CAP), but it was subsequently litigated and rescinded. As a result, the County currently has no formally adopted plan for GHG reductions.

3.0 SIGNIFICANCE CRITERIA AND ANALYSIS METHODOLOGIES

3.1 SIGNIFICANCE CRITERIA

The County (2007) has approved guidelines for determining air quality impact significance. These guidelines were based on the *CEQA Guidelines* Appendix G significance questions available at that time. These questions have since been updated, most recently in the 2021 *CEQA Guidelines*. Within this analysis, the revised Appendix G significance determination questions are included and generally require the same analysis and disclosure. A project would have a significant environmental impact if it would:

1. Conflict with or obstruct the implementation of the San Diego RAQS or applicable portions of the SIP;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard (PM_{10}, $PM_{2.5}$ or exceed quantitative thresholds for O_3 precursors, NOx, and VOCs);
3. Expose sensitive receptors (including, but not limited to, residences, schools, hospitals, resident care facilities, or daycare centers) to substantial pollutant concentrations; and/or
4. Create odors affecting a substantial number of people.

The County adopted the SDCAPCD's trigger-level thresholds as screening level thresholds for air quality emissions (Rules 20.1 et seq.) for land development projects. As stated above, projects that propose development that is consistent with the growth anticipated by the General Plans and SANDAG's growth forecasts would be consistent with the RAQS and SIP. Also, projects that are consistent with the SIP rules (i.e., the federally-approved rules and regulations adopted by the SDCAPCD) are consistent with the SIP. Thus, projects would be required to conform with measures adopted in the County's General Plan and RAQS (including use of low-VOC architectural coatings, use of low-NOx water heaters, and compliance with rules and regulations governing stationary sources) and would also be required to comply with all applicable rules and regulations adopted by the SDCAPCD.

To determine whether a project would result in a cumulatively considerable net increase of PM_{10} or $PM_{2.5}$ or exceed quantitative thresholds for ozone precursors, oxides of NOx and VOCs, project emissions may be evaluated based on the screening level thresholds established by the SDCAPCD. As part of its air quality permitting process, the SDCAPCD has established thresholds in Rule 20.2 for the preparation of Air Quality Impact Assessments (AQIAs). The County adopted the EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, as its screening level threshold for $PM_{2.5}$ and the SDCAPCDSCAQMD's screening level for VOCs.

For CEQA purposes, these screening criteria can be used as numeric methods to demonstrate that a project's total emissions would not result in a significant impact to air quality. These criteria are designed to reduce potential health impacts. The health protective goals/intent of ambient air quality standards correlate to the Screening Level Thresholds (SLTs) serving to maintain these standards at the local level. Table D shows the screening thresholds.

Table D: Screening-Level Thresholds for Air Quality Impact Analysis

Pollutant	Total Emissions (Pounds per Day)		
Construction Emissions			
Respirable Particulate Matter (PM_{10})	100		
Fine Particulate Matter ($PM_{2.5}$)	55		
Oxides of Nitrogen (NOx)	250		
Oxides of Sulfur (SOx)	250		
Carbon Monoxide (CO)	550		
Volatile Organic Compounds (VOCs)	75		
Operational Emissions			
	Pounds Per Hour	**Pounds per Day**	**Tons per Year**
Respirable Particulate Matter (PM_{10})	—	100	15
Fine Particulate Matter ($PM_{2.5}$)	—	55	10
Oxides of Nitrogen (NOx)	25	250	40
Oxides of Sulfur (SOx)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead and Lead Compounds	—	3.2	0.6
Volatile Organic Compounds (VOC)	—	75	13.7
Toxic Air Contaminant Emissions			
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT		
Non-Cancer Hazard Index	1.0		

Source: SDCAPCD Rule 20.2 and Rule 1210.
T-BACT = Toxics Best Available Control Technology

In the event that emissions exceed these SLTs, detailed modeling would be required to demonstrate that the project's total air quality impacts result in ground-level concentrations that are below the NAAQS and CAAQS, including appropriate background levels. For nonattainment pollutants (ozone [with ozone precursors NOx and VOCs], $PM_{2.5}$ and PM_{10}), if emissions exceed the thresholds shown in Table D, the project could have the potential to result in a cumulatively considerable net increase in these pollutants and thus could have a significant impact on the ambient air quality.

In addition to impacts from criteria pollutants, impacts may include emissions of pollutants identified by the State and federal government as TACs or HAPs. In San Diego County, the Planning and Development Services (PDS) identifies an excess cancer risk level of 1 in 1 million or less for projects that do not implement Toxics Best Available Control Technology (T-BACT) and an excess cancer risk level of 10 in 1 million or less for projects that do implement T-BACT. The significance threshold for non-cancer health effects is a health HI of 1 or less. These significance thresholds are consistent with the SDCAPCD's Rule 1210 requirements for stationary sources. If a project has the potential to result in emissions of any TAC or HAP that result in a cancer risk of greater than 1 in 1 million without T-BACT, 10 in 1 million with T-BACT, or a health HI of 1 or more, the project would be deemed to have a potentially significant impact.

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (preschool-12th grade), hospitals, residences, resident care facilities, or daycare centers, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. Based on CARB guidance, any project that has the potential to directly affect a sensitive receptor located within 1,000 feet and results in a health risk greater than the risk significance thresholds discussed above would be deemed to have a potentially significant impact (CARB 2005).

Section 6318 of the County Zoning Ordinance requires all commercial uses "be operated as not to emit matter causing unpleasant odors which is perceptible by the average person at or beyond any lot line of the lot containing said uses." SDCAPCD Rule 51 (Public Nuisance) also prohibits emission of any material causing nuisance to a considerable number of persons or endangers the comfort, health or safety of any person. A project that proposes a use that would produce objectionable odors would be deemed to have a significant odor impact if it would affect a considerable number of receptors.

The impacts associated with construction and operation of the proposed project were evaluated for significance based on these significance criteria.

3.2 EMISSIONS ANALYSIS METHODOLOGY

The proposed project would generate construction-related emissions and operational emissions. The methods used to evaluate construction and operational impacts are described below.

3.2.1 Construction Equipment and Vehicle Trips

Construction of the project would result in the temporary generation of emissions of VOC, NOx, CO, sulfur oxides (SOx), PM_{10}, and $PM_{2.5}$. Construction-related emissions would vary substantially depending on the level of activity, length of the construction period, specific construction operations, types of equipment, number of personnel, wind and precipitation conditions, and soil moisture content. It is assumed that most of the construction equipment used would be diesel-powered. The construction activities associated with the project would create DPM emissions and would generate fugitive dust. Construction equipment within the project site that would generate criteria air pollutants could include backhoes, cranes, dozers, excavators, loaders, scrapers, and haul trucks. Some of this equipment would be used during site preparation and grading activities as well as when structures are constructed on the project site. In addition, emissions during construction and grading activities include truck trips off site to remove debris during the blasting phase and construction truck trips.

Criteria pollutant and O_3 precursor emissions for project construction activities were calculated using CAPCOA's California Emission Estimator Model (CalEEMod) Version 2016.3.2 computer program as recommended by the County.[1] See Appendix A. CalEEMod incorporates CARB's California Emission Factor Model (EMFAC) 2014 model for on-road vehicle emissions and the OFFROAD2014 model for off-road vehicle emissions. (Note: EMFAC2017 was released in end of 2017

[1] A newer version of CalEEMod (2020.4.0) has been released since this analysis was conducted. Version 2016.3.2 was the current version at the time of this analysis.

and EMFAC2021 was released in January 2021, both after CalEEMod Version 2016.3.2 was released.) CAPCOA has updated CalEEMod to incorporate these newer EMFAC versions, but it was not available for use in at the time of this project analyses. Based on the information from the CARB public workshop on June 1, 2017,[1] the light-duty automobiles and trucks running exhaust emission rates are lower in EMFAC2017 than in EMFAC2014 and those in EMFAC2021 are even lower. Therefore, motor vehicle emission estimates from the EMFAC2014 data are conservative.) CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the number of equipment, hours of operations, duration of construction activities, and selection of fugitive dust emission control measures.

The primary project components are the gravesite areas and associated landscaping, the chapel, the office structure, internal circulation system, and an off-site mitigation program for impacts to drainage features within the project site. Due to the existing topography, the project would require the leveling of the project site, which is at a slight grade in its existing condition. Grading would be required for the proposed internal circulation system and for the building pad for the proposed chapel. No mass grading is proposed for the gravesites, which will be developed over time based on needs and funding. The proposed project would also require the realignment of Keys Place to accommodate the proposed on-site circulation system.

Peak daily emissions associated with the on-site construction equipment, on-road haul trucks and vendor trips, and fugitive dust emissions during each of the construction tasks were calculated using the most recent version of CalEEMod (Version 2016.3.2). As shown in Table E, construction of the proposed project would occur in six phases. The construction phase schedule is based on the CalEEMod defaults, which estimate timelines based on the project size and land use inputs. It is assumed that the anticipated construction start date would occur in January 2022 and the construction duration is approximately six months. The construction equipment list in Table F is used in the CalEEMod to calculate on-site emissions for each construction phase. The equipment mix anticipated for construction activity was based on information provided by the applicant's representatives and best engineering judgment. The equipment mix is meant to represent a reasonably conservative estimate of construction activity. Default values for horsepower and load factor as provided in CalEEMod were utilized for the majority of construction equipment listed in Table F. It was assumed all equipment utilized during each phase would be operating between 6 to 8 hours per day, 5 days per week. Table G presents the number of off-road equipment counts and worker trips for each construction phase from the CalEEMod. Because on-site construction operations must comply with dust control and other measures prescribed by SDCAPCD Rule 55, compliance with dust control rules is assumed in the analysis.

[1] California Air Resources Board (CARB). 2017. EMFAC2017: An Update to California On-road Mobile Source Emission Inventory. Website: www.arb.ca.gov/msei/downloads/emfac2017_workshop_june_1_2017_final.pdf. Accessed May 2021.

Table E: Tentative Project Construction Schedule

Phase Number	Phase Name	Number of Days/Week	Number of Days
1	Demolition	5	20
2	Site Preparation	5	10
3	Grading	5	30
4	Building Construction	5	20
5	Paving	5	20
6	Architectural Coating	5	20

Source: Estimated by LSA from the Anticipated Construction Schedule (assuming a 2021 opening year) and using California Emissions Estimator Model (CalEEMod) defaults (May 2021).

Table F: Diesel Construction Equipment Utilized by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Excavators	3	8	158	0.38
	Concrete/Industrial Saw	1	6	81	0.73
	Rubber-Tired Dozers	2	8	247	0.40
Site Preparation	Rubber-Tired Dozers	3	8	247	0.40
	Tractors/Loaders/Backhoes	4	8	97	0.37
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber-Tired Dozers	1	8	247	0.40
	Tractors/Loaders/Backhoes	2	8	97	0.37
	Scrapers	2	8	367	0.48
Building Construction	Cranes	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Generator Sets	1	8	84	0.74
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressors	1	6	78	0.48

Source: Compiled by LSA using California Emissions Estimator Model (CalEEMod) defaults (May 2021).

Table G: Construction Equipment and Worker Trip Counts

Phase Name	Off-road Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number
Demolition	6	15	0	12
Site Preparation	7	18	0	0
Grading	8	20	0	312
Building Construction	9	10	0	0
Paving	6	15	0	0
Architectural Coating	1	2	0	0

Source: Compiled by LSA using California Emissions Estimator Model (CalEEMod) defaults (May 2021).

3.2.2 Location of Off-site Sensitive Receptors

Air quality regulators typically define "sensitive receptors" as schools, hospitals, resident care facilities, daycare centers, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. However, for the purpose of CEQA analysis, the County definition of "sensitive receptors" also includes residences (County 2007). Existing sensitive receptors within ¼ mile of the project vicinity include several existing and new residences. There is a new subdivision of single-family homes (44 homes on 4 acres) located directly south of the project known as the Wildgrove community and located on Wildgrove Way. The closest homes are approximately 30 feet from the project site boundary. There is also an apartment complex located to the south of the project (1510 S. Melrose Drive) called Shadowridge Heights apartments, the closest apartment is approximately 50 feet from the project site boundary. To the west of the project is Aegis Living—Shadowridge assisted living facility located at 1440 S. Melrose Drive, approximately 400 feet from the project site boundary. There are no schools, hospitals, or other non-residence sensitive receptors within ¼ mile of the project site.

3.2.3 Health Risk Assessment Modeling and Methodology

To evaluate whether project construction activities could pose a significant impact to nearby sensitive receptors, an HRA of DPM and VOCs was conducted using the EPA SCREEN3 model.

The SCREEN3 dispersion model determines the concentration for air pollutants at any location near the pollutant generator. Additionally, the model predicts the maximum exposure distance and concentrations. The SCREEN3 input/output file for the proposed project is shown in Appendix B of this report. The worst-case exhaust emissions generated from the project from construction equipment was utilized and calculated within the CalEEMod.

Once the dispersed concentrations of diesel particulates are estimated in the surrounding air, they are used to evaluate estimated exposure to people. Health risk factors are published by the OEHHA. Exposure is evaluated by calculating the dose in milligrams per kilogram body weight per day (mg/kg/d). For residential exposure, the breathing rates are determined for specific age groups, so inhalation dose (DOSEair) is calculated for each of these age groups: 3rd trimester, 0<2, 2<9, 2<16, 16<30, and 16–70 years. The following algorithms calculate this dose for exposure through the inhalation pathways. The worst-case cancer risk dose calculation is defined in Equation 1 below (OEHHA, February 2015):

$DOSEair = (Cair \times [BR/BW] \times A \times EF) \times (1 \times 10^{-6})$

Where:

DOSEair	=	chronic daily intake (mg/kg/day)
Cair	=	concentration of contaminant in air (micrograms per cubic meter [µg/m^3])
[BR/BW]	=	daily breathing rate normalized to body weight (L/kg BW-day)
A	=	inhalation absorption factor
EF	=	exposure frequency (days/365 days)
BW	=	body weight (kg)
1×10^{-6}	=	conversion factors (µg to mg, L to m^3)

Once the dose is determined, then the cancer risk is calculated. The average daily inhalation dose (mg/kg-day) multiplied by the cancer potency factor (mg/kg-day)-1 will give the inhalation cancer risk (unitless), which is an expression of the chemical's cancer risk during a 70-year lifespan of exposure. For example, an inhalation cancer risk of 5×10^{-6} is the same as stating that an individual has an estimated probability of developing cancer from their exposure of 5 chances per million people exposed.

Cancer risk is calculated by multiplying the daily inhalation or oral dose, by a cancer potency factor, the age sensitivity factor, the frequency of time spent at home and the exposure duration divided by averaging time, to yield the excess cancer risk. As described below, the excess cancer risk is calculated separately for each age grouping and then summed to yield cancer risk for any given location. Specific factors as modeled are shown within the project models attached to this report. The worst-case cancer risk calculation is defined in Equation 2 below (OEHHA, February 2015):

$RISKair = DOSEair \times CPF \times ED/AT$

Where:

DOSEair	=	chronic daily intake (mg/kg/day)
CPF	=	cancer potency factor
ED	=	number of years within particular age group
AT	=	averaging time

OEHHA recommends that an exposure duration (residency time) of 30 years be used to estimate individual cancer risk for the Maximally Exposed Individual Resident (MEIR). OEHHA also recommends that the 30-year exposure duration be used as the basis for public notification and risk reduction audits and plans.

Exposure durations of 9 years and 70 years are also recommended to be evaluated for the MEIR to show the range of cancer risk based on residency periods. If a facility is notifying the public regarding

cancer risk, the 9-year and 70-year cancer risk estimates are useful for people who have resided in their current residence for periods shorter and longer than 30 years.

Non-cancer risks or risks defined as chronic or acute are also known with respect to DPM and are determined by the HI. To calculate the HI, DPM concentration is divided by its REL. Where the total equals or exceeds one, a health hazard is presumed to exist. RELs are published by the OEHHA. Diesel exhaust has an REL of 5 µg/m^3 and targets the respiratory system.

3.2.4 Odor Assessment

Potential on-site odor generators would include short-term construction odors from activities such as paving and possibly painting. Once operational, vehicle and maintenance equipment exhaust could generate odors, but these would also be short-term and not likely to result in an odor impact.

3.2.5 Operational Emissions Methodology

Project-generated, long-term regional area-source and mobile-source emissions of criteria air pollutants and O_3 precursors were also modeled using CalEEMod. CalEEMod allows land use selections that include project land use types, sizes, and metric specifics and trip generation rates. The CalEEMod does not have a cemetery land use category. Instead, a user-defined commercial land use is selected for the cemetery. Because the cemetery area is mostly a landscaped grass field with a small administrative office building, most of the operational project emissions data were adjusted by using similar CalEEMod default input data from the “city park” and “office park” land uses. Once construction is completed, the proposed project would generate emissions from daily operations that would include sources such as area, energy, mobile, waste, and water uses, which are calculated within CalEEMod. Emissions from the waste and water categories are only reported in the GHG emissions summary. See Appendix A. Area sources include sources such as the engine emissions from landscape maintenance equipment and VOC emissions from repainting of buildings. CalEEMod also accounts for mobile source emissions associated with the vehicle trip generation. Project-specific average daily trip (ADT) is based on the SANDAG trip generation rate of five trips per acre and default CalEEMod settings for San Diego County in order to estimate reasonable worst-case conditions. The existing uses were calculated to generate 176 ADT and the proposed cemetery use approximately 138 ADT based on the *Site Access Review – Good Shepard Cemetery* memorandum (LLG 2020); thus, on balance the proposed project is calculated to reduce trips. This would support project consistency with existing County plans and goals to reduce VMT. Because the County threshold for a traffic study is 200 ADT, the proposed project would not require a traffic study.

4.0 PROJECT IMPACT ANALYSIS

The project would result in both construction and operational emissions. Construction emissions include short-term emissions associated with mass grading, infrastructure installation, and structure development. Operational emissions include long-term emissions associated with the project, including energy usage and traffic, at full project buildout.

4.1 CONFORMANCE TO THE REGIONAL AIR QUALITY STRATEGY

4.1.1 Guideline for the Determination of Significance

Based on Appendix G of the *CEQA Guidelines*, and the *County Guidelines for Determining Significance – Air Quality*, the proposed project would have a significant impact if it would:

- Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP.

The RAQS outlines SDCAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDCAPCD relies on the SIP, which includes the SDCAPCD's plans and control measures for attaining the ozone NAAQS. The federal O_3 attainment plan, which will be a part of the California SIP, was adopted in October 14, 2020. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the EPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS and SIP.

4.1.2 Significance of Impacts Prior to Mitigation

The RAQS relies on information from the CARB and SANDAG, including projected growth in the County, mobile, area, and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and by the County. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS and O_3 attainment plan. In the event that a project proposes development that is less size/intensity of use than anticipated by the General Plan, the project would likewise be consistent with the RAQS and O_3 attainment plan. If a project proposes development that is greater than that anticipated in the County General Plan and SANDAG's growth projections upon which the RAQS are based, the project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

The project is located in an unincorporated area of North San Diego County, adjacent to the cities of Oceanside and Vista. The current 2016 RAQS is based on projections for residential, commercial, industrial, and recreational land uses contained in the County's General Plan that were in place at the time the RAQS was adopted in 2016. It should be noted that population and vehicle miles traveled (VMT) growth projections in SANDAG's 2050 Regional Transportation Plan (RTP) were used

in the 2016 RAQS. In relation to the proposed cemetery, the General Plan and 2050 RTP projected a slight increase in population (i.e., potential number of residences would be approximately 83 persons) at buildout than the project (based on estimated 2.86 persons per dwelling unit). The maximum density for the Semi-Rural Residential (SR-2) under the General Plan is one dwelling unit per 0.5 acre. With the CalEEMod default value of 9.52 vehicle trips per dwelling unit, the estimated average daily trip would be 276 trips per day for the General Plan SR-2 land uses. The proposed project would result in 138 trips per day, which would be less than the existing 176 ADT and the General Plan SR-2 land uses. Based on the project type, it would not result in an increase in residential population and would result in a minimal increase in job growth. Implementation of the project would result in little to no change in regional emissions and in the unincorporated area of the County than assumed in the General Plan and 2050 RTP.

The RAQS and O_3 attainment plan outlines SDCAPCD's plans and control measures designed to attain the State and federal air quality standards for ozone. The RAQS and O_3 attainment plan relies on SANDAG growth projections based on population, vehicle trends, and land use plans developed by the cities and by the County as part of the development of their general plans and specific plans.

Within the North County Metropolitan Subregional Planning Area, the General Plan designation for the project site is Semi-Rural Residential (SR-2). The project site is zoned A-70 (Limited Agriculture). A cemetery is permitted under the A-70 limited agricultural use regulations, Section 2705 subject to major use permit. Rural residential land uses in the Cities of Vista and Oceanside surround the project site. There are several single-family residential land uses located in the nearby rural areas with lot sizes greater than 1 acre. Rural residential estates may have small orchards, fields, or storage buildings associated with the residential dwelling unit; however, the primary land use is residential in nature. The proposed project land use and zoning would be consistent with the General Plan and conform to the RAQS and O_3 attainment plan. Therefore, the impacts associated with conformance to regional air quality plans would be less than significant.

4.1.3 Mitigation Measures and Design Considerations

No mitigation is required.

4.1.4 Conclusions

The proposed project would conform to the 2016 RAQS, 2020 O_3 attainment plan, and California SIP and would result in a less than significant impact.

4.2 CUMULATIVELY CONSIDERABLE NET INCREASE OF CRITERIA POLLUTANTS

In analyzing cumulative impacts from a proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is listed as nonattainment for CAAQS and NAAQS. As discussed in Section 2.4., San Diego Air Basin Attainment Designation, the SDAB has been designated as a federal nonattainment area for O_3 and a State nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB. The proposed project would have a cumulatively considerable impact if project-generated emissions would exceed thresholds for PM_{10}, $PM_{2.5}$, NOx, and/or VOCs. If the proposed project does not

exceed thresholds and is determined to have less than significant project-specific impacts, it may still have a cumulatively considerable impact on air quality if the emissions from the project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds. However, the proposed project would be considered to have a cumulative impact only if the proposed project's contribution accounts for a significant proportion of the cumulative total emissions.

Background ambient air quality, as measured at the monitoring stations maintained and operated by SDCAPCD, measures the concentrations of pollutants from existing sources; therefore, past and present project impacts are included in the background ambient air quality data.

4.2.1 Geographic Extent

The geographic extent for the analysis of cumulative impacts related to air quality includes the north-central corner of the SDAB (San Diego County). Due to the nonattainment status of the SDAB, the primary air pollutants of concern would be NOx and VOCs, which are ozone precursors, and PM_{10} and $PM_{2.5}$. Project-related NOx and VOCs are primarily emitted from motor vehicles and construction equipment, while PM_{10} and $PM_{2.5}$ are emitted primarily as fugitive dust during construction. Because of the nature of ozone as a regional air pollutant, emissions from the entire geographic area for this cumulative impact analysis would tend to be important, although maximum ozone impacts generally occur downwind of the area in which the ozone precursors are released. PM_{10} and $PM_{2.5}$ impacts, on the other hand, would tend to occur locally; thus, projects occurring in the same general area and in the same time period would tend to create cumulative air quality impacts.

4.2.2 Existing Cumulative Conditions

Air quality management in the geographic area for the cumulative impact assessment is the responsibility of the SDCAPCD. Existing levels of development in San Diego County have led to the nonattainment status for ozone with respect to the CAAQS and NAAQS, and for PM_{10} and $PM_{2.5}$ with respect to the CAAQS. The nonattainment status is based on ambient air quality monitoring generally conducted in the urban portions of the County. Due to its proximity to the site and similar geographic and climactic characteristics, the Camp Pendleton and North San Diego monitoring stations monitor concentrations for criteria pollutants near the project site. The air quality plans prepared by the SDCAPCD reflect future growth under local development plans, but they are intended to reduce emissions countywide to levels that would comply with the NAAQS and CAAQS through implementation of new regulations at the local, State, and federal levels.

The County of San Diego guidelines of significance discussed below have been developed to respond to the following question from the *CEQA Guidelines*:

- Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the SDAB is nonattainment under an applicable federal or State ambient air quality standard (including emissions that exceed the significance thresholds for O_3 precursors, PM_{10}, and $PM_{2.5}$ listed in Table D).

4.2.3 Construction Impacts

4.2.3.1 Guideline for the Determination of Significance

Cumulatively considerable net increases during the construction phase would typically occur if two or more projects near each other are simultaneously under construction. The following guidelines for determining significance must be used for determining the cumulatively considerable net increases during the construction phase:

- A project that has a significant direct impact on air quality with regard to emissions of PM_{10}, $PM_{2.5}$, NOx, and/or VOCs would also have a significant cumulatively considerable net increase.
- In the event direct impacts from a proposed project are less than significant, a project may still have a cumulatively considerable impact on air quality if the emissions of concern from the proposed project, in combination with the emissions of concern from other proposed projects or reasonably foreseeable future projects within a proximity relevant to the pollutants of concern, would together exceed the guidelines.

4.2.3.2 Significance of Impacts Prior to Mitigation

In analyzing cumulative impacts from the proposed project, the analysis must specifically evaluate a project's contribution to the cumulative increase in pollutants for which the SDAB is designated as nonattainment for the CAAQS and NAAQS. If the proposed project's emissions do not exceed thresholds and the project is determined to have less than significant project-specific impacts, it may still contribute to a significant cumulative impact on air quality if the emissions from the proposed project, in combination with the emissions from other proposed or reasonably foreseeable future projects, are in excess of established thresholds.

The SDAB has been designated as a federal nonattainment area for O_3 and a State nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. PM_{10} and $PM_{2.5}$ emissions associated with construction generally result in localized impacts. The nonattainment status is the result of cumulative emissions from all sources of these air pollutants and their precursors within the SDAB.

Construction of cumulative projects simultaneously with the proposed project would result in a temporary addition of pollutants to the local airshed caused by soil disturbance and hauling activities, fugitive dust emissions, and combustion pollutants from on-site construction equipment, as well as from off-site trucks hauling construction materials and worker vehicular trips. Fugitive dust (PM_{10} and $PM_{2.5}$) emissions would primarily result from site preparation and grading activities. NOx and CO emissions would primarily result from the use of construction equipment and motor vehicles, the latter of which would generally be dispersed over a large area where the vehicles are traveling.

Air pollutant emissions associated with the project would occur over the short term from construction activities (e.g., fugitive dust from site preparation and grading) and emissions from equipment exhaust. Long-term regional emissions would be associated with project-related vehicular trips, landscaping equipment (i.e., 1 lawnmower and 1 backhoe), and energy consumption (e.g., electricity usage) by the proposed project.

The most recent version of CalEEMod (Version 2016.3.2) was used to calculate the construction emissions. CalEEMod is designed to model construction emissions for land development projects and allows for the input of project-specific information, such as the amount of equipment, hours of operation, duration of construction activities, and selection of emission control measures.

- **Fugitive Dust.** SDCAPCD dust control measures require all clearing and grading to be carried out with dust control measures adequate to prevent creation of a nuisance to persons or public or private property. Clearing, grading, or improvement plans shall require that measures such as the following be undertaken to achieve this result:
    - Watering: Water exposed soil at least three times per day.
    - Application of Surfactants: Ensure that all disturbed areas not being actively utilized, be effectively stabilized and visible emissions limited to no greater than 20 percent opacity for dust emissions by using water, chemical stabilizers, dust suppressants, or other suitable material, such as vegetative groundcover.
    - Shrouding: Replace groundcover or apply chemical stabilizers in disturbed areas as quickly as possible.
    - Control of Vehicle Speeds: Limit vehicle speed for all construction vehicles to less than 15 mph on any unpaved surface at the site.
    - Paving of Access Areas: All permanent roads and the paved access roadway improvements shall be constructed and paved as early as possible in the construction process to reduce construction vehicle travel on unpaved roads.
    - Other Operational or Technological Measures to Reduce Dispersion of Dust: Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour.

  These control measures are to be incorporated into all earth-disturbing activities to minimize the amount of particulate matter emissions from construction. Fugitive dust emissions will not exceed the County threshold.
- **Architectural Coatings.** Architectural coatings contain VOCs that are similar to reactive organic compounds (ROCs) and are part of the O_3 precursors. Based on the proposed construction schedule, building construction, application of architectural coatings, and paving on a peak construction day, emissions are estimated to result in 14.84 pounds per day (lbs/day) of VOC. Therefore, VOC emissions will not exceed the County threshold of 75 lbs/day of VOC.

Table H shows the construction emissions. The emissions rates shown in the table are from the CalEEMod output tables (see Appendix A) and represent the combination of the on-site and off-site emissions.

Table H: Short-Term Regional Construction Emissions

Construction Phase	Daily Regional Pollutant Emissions, lbs/day							
	VOC	NOx	CO	SOx	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	2.70	25.90	21.00	0.04	0.18	1.24	0.04	1.16
Site Preparation	3.24	33.12	20.14	0.04	6.49	1.61	3.52	1.48
Grading	3.77	41.35	30.19	0.07	3.39	1.64	1.36	1.51
Building Construction	1.76	16.02	16.71	0.03	0.11	0.81	0.03	0.76
Paving	1.20	11.16	14.95	0.02	0.12	0.57	0.03	0.52
Architectural Coatings	14.84	1.41	1.86	0.00	0.02	0.08	0.00	0.08
Peak Daily	**14.84**	**41.35**	**30.19**	**0.07**	**8.10**		**5.01**	
SDCAPCD Thresholds	**75.0**	**250.0**	**550.0**	**250.0**	**100.0**		**55.0**	
Significant Emissions?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (May 2021).
Note: Peak daily emission rate indicates the maximum of summer and winter emission rates.

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = particulate matter smaller than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter
ROG = reactive organic gases
SDCAPCD = San Diego Air Pollution Control District
SOx = sulfur oxides
VOC = volatile organic compounds

Because no exceedances of any criteria pollutants are expected, no significant impacts would occur from project construction. Based on the cumulative projects that have been identified, there are no known projects within 1,500 feet of the proposed project where construction would occur concurrently with the project. It should also be noted that the point of maximum exposure for construction emissions flow downwind off site would be approximately 60 feet away (e.g., single-family homes in adjacent Wildgrove community). Given the highly dissipative nature of diesel exhaust, cumulative construction health risks or SDCAPCD air quality impacts would not be expected. It is possible that future projects, currently unknown at the time this air quality analysis was conducted, could be approved and begin construction; however, these projects would also be required to comply with SDCAPCD rules for fugitive dust and construction equipment exhaust emissions. These projects would also be required to identify the proposed project as a cumulative project and incorporate measures that would reduce potential cumulative impacts to a less than significant level. Therefore, the project would not result in a cumulatively considerable contribution to an existing air quality impact related to O_3, PM_{10}, and $PM_{2.5}$.

As discussed above, the emissions of all criteria pollutants, including PM_{10} and $PM_{2.5}$, would be well below the significance levels during construction. Construction activities required for the implementation of the project would not result in significant impacts to air quality. However, it is possible that construction associated with other projects would occur in the general vicinity of the proposed project site. Because all construction contractors would have to conform to BMPs, EPA and CARB equipment engine regulations, and dust control measures, these cumulative construction projects would not result in a cumulatively considerable net increase in VOC, NOx, PM_{10}, and/or $PM_{2.5}$.

4.2.3.3 Mitigation Measures and Design Considerations

No mitigation is required. Control measures for construction are discussed in Section 1.3, Best Management Practices. As discussed in that section, implementation of standard construction measures controlling fugitive dust emissions would minimize the project's contribution to cumulative air quality impacts from construction activities. Cumulative projects would also need to comply with SDCAPCD rules for dust control and construction equipment.

4.2.3.4 Conclusions of Construction Impacts

Project construction would not result in a cumulatively considerable net increase in emissions of VOC, NOx, PM_{10}, and/or $PM_{2.5}$. Impacts would be less than significant. As described in Section 3.1, the screening criteria are designed to protect the health and welfare of the populace with a reasonable margin of safety; thus, construction of the proposed project would not result in unhealthful air pollution at the local level.

4.2.4 Operational Impacts

4.2.4.1 Guidelines for the Determination of Significance

The guidelines for the consideration of operational cumulatively considerable net increases are treated differently due to the mobile nature of the emissions. The SDAB's RAQS, based on growth projections derived from the allowed General Plan densities, is typically updated every three years by SDCAPCD and lays out the programs for attaining the CAAQS for O_3 precursors. It is assumed that if a project that conforms to the County General Plan and does not have emissions exceeding the screening-level thresholds, it will not create a cumulatively considerable net increase for O_3 since the emissions of O_3 precursors were accounted for in the RAQS.

The following County of San Diego guidelines for determining significance must be used for determining the cumulatively considerable net increases during the operational phase:

- A project that does not conform to the RAQS and/or has a significant direct impact on air quality with regard to operational emissions of PM_{10}, $PM_{2.5}$, NOx, and/or VOCs would also have a significant cumulatively considerable net increase.
- Projects that cause road intersections to operate at or below Level of Service (LOS) E (analysis only required when the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 3,000) and create a CO hot spot create a cumulatively considerable net increase of CO.

4.2.4.2 Significance of Impacts Prior to Mitigation

With regard to cumulative impacts associated with O_3 precursors, in general, if a project is consistent with the community and General Plan, it has been accounted for in the O_3 attainment demonstration contained within the RAQS. As such, it would not cause a cumulatively significant impact on the ambient air quality for O_3.

The proposed project lies within the North County Metropolitan Subregional Plan. The General Plan Land Use for the proposed project is Semi-Rural Residential (SR-2). The County of San Diego's

adopted General Plan emphasizes sustainable community design principles within its Goals and Policies. Consistent with the County's North County Metropolitan Subregional Plan, the proposed project's Semi-Rural areas would contain a cemetery with a chapel. In the Cities of Oceanside and Vista, the neighborhoods would be surrounded by rural lands characterized by semi-rural residential uses, St. Thomas More Catholic Church, open space, and other uses associated with rural residential areas.

Operational emissions from the proposed project would be primarily associated with gravesite preparation, employee traffic, and visitor traffic. The main operational emissions sources associated with the project are associated with vehicular traffic and on-site backhoes and landscaping equipment; emissions associated with area sources are associated with energy use and landscaping would be generated.

Once the proposed project is fully operational in the year 2023, it would generate approximately 138 ADT based on the *Site Access Review – Good Shepard Cemetery* memorandum (LLG 2020). CalEEMod was used to estimate emissions associated with project-generated traffic. Motor vehicle emission rates are, therefore, based on the CARB's EMFAC statewide emission factors for the San Diego County region, adjusted per the EPA's SAFE rule. Default vehicle speeds, trip lengths, trip purpose, and trip type percentages for a user defined commercial land uses were used. Urban land use setting was selected in the CalEEMod because the Cities of Oceanside and Vista are within the surrounding areas.

Area source emissions, including emissions from energy use, landscaping equipment (i.e., 1 lawnmower and 1 backhoe), and maintenance use of architectural coatings, were calculated using CalEEMod. Most of the operational energy data were adjusted by using similar CalEEMod default input data for the "city park" (lawn care and maintenance) and "office park" (building energy) land uses. Operational emissions calculations and model outputs are provided in Appendix A. Table I summarizes the operational emissions.

Table I: Estimated Operational Emissions (lbs/day)

Category	VOC	NOx	CO	SOx	PM_{10}	$PM_{2.5}$
Area	0.14	<0.01	<0.01	0	<0.01	<0.01
Energy	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mobile	0.20	0.76	2.38	<0.01	0.79	0.22
Gravesite prep backhoe	0.30	3.07	4.46	<0.01	0.15	0.14
Total	**0.64**	**3.84**	**6.85**	**0.01**	**0.94**	**0.35**
Screening-Level Thresholds	75	250	550	250	100	55
Exceedance?	No	No	No	No	No	No

Note: Emissions were calculated for both summer and winter months, and the highest value is shown here.
Source: Compiled by LSA (May 2021).

CO = carbon monoxide
lbs/day = pounds per day
NOx = nitrogen oxides
PM_{10} = particulate matter smaller than or equal to 10 microns in diameter
$PM_{2.5}$ = particulate matter smaller than or equal to 2.5 microns in diameter
SOx = sulfur oxides
VOC = volatile organic compounds

As shown in Table I, emissions of all criteria pollutants during operation would be below the daily thresholds. Therefore, operation of the project would have a less than significant impact on air quality.

4.2.4.3 Mitigation Measures and Design Considerations

A wide range of current regulatory codes and other measures would be incorporated into the proposed project, ranging from building energy efficiency, low VOC paint coating, and natural gas furnaces to solid waste diversion. These measures were included in the analysis. The project would incorporate energy-efficiency features that would comply with the 2019 California Title 24 Energy Efficiency Standards. Other measures, such as the installation of low-flow or high-efficiency water fixtures, reduce water demand and their associated embodied energy demand were included in the analysis. The project would provide areas for recyclable materials collection. Given this result of a less than significant impact, no mitigation would be required.

4.2.4.4 Significance of Impacts Following Mitigation

The proposed project operational emissions would result in a less than significant impact. As described in Section 3.1, the screening criteria are designed to protect the health and welfare of the populace with a reasonable margin of safety; thus, operation of the proposed project would not result in unhealthful air pollution at the local level.

4.3 IMPACTS TO SENSITIVE RECEPTORS

Air quality varies as a direct function of the amount of pollutants emitted into the atmosphere, the size and topography of the air basin, and the prevailing meteorological conditions. Air quality problems arise when the rate of pollutant emissions exceeds the rate of dispersion. Reduced visibility, eye irritation, and adverse health impacts upon sensitive receptors are the most serious hazards of existing air quality conditions in the area. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. Air quality regulators typically define sensitive receptors as schools (preschool–12th grade), hospitals, resident care facilities, daycare centers, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. For the purposes of CEQA analysis in the County, the definition of a sensitive receptor also includes residents.

The two primary emissions of concern regarding health effects for land development projects are diesel exhaust particulate matter (DPM) during construction and CO hot spots related to traffic congestion; however, emissions of other criteria air pollutants also result in health effects. Previously referenced Table B presents a list of the criteria pollutants and other related pollutants of concern, emission sources, and associated health effects.

4.3.1 Construction Impacts

4.3.1.1 Guidelines for the Determination of Significance

A significant impact would result if:

- The project would result in CO emissions that when totaled with the ambient concentrations will exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm. Projects that cause road intersections to operate at or below LOS E and the addition of peak-hour trips from the proposed project and the surrounding projects exceeds 3,000 have the potential to create CO concentrations exceeding the CAAQS.
- Project implementation would result in exposure to TACs resulting in a:
    - Maximum incremental cancer risk greater than 10 in one million with the application of T-BACT, or
    - A cancer burden equal to or greater than 1.0, or
    - Total acute non-cancer health hazard index equal to or greater than 1, or
    - Total chronic non-cancer health hazard index equal to or greater than 1.0.

4.3.1.2 Significance of Impacts Prior to Mitigation

Carbon Monoxide Hot Spots. Mobile-source impacts occur on two scales of motion. Regionally, project-related travel would add to regional trip generation and increase the VMT within the local airshed and the SDAB. Locally, project traffic would be added to the County roadway system near the proposed project. If such traffic occurs during periods of poor atmospheric ventilation, is composed of a large number of vehicles "cold-started" and operating at pollution-inefficient speeds, and is operating on roadways already crowded with non-project traffic, a potential for the formation of microscale CO "hot spots" occurs in the area immediately around points of congested traffic. Because of continued improvement in vehicular emissions at a rate faster than the rate of vehicle growth and/or congestion, the potential for CO hot spots in the SDAB is steadily decreasing.

Carbon monoxide transport is extremely limited and disperses rapidly with distance from the source. Under certain extreme meteorological conditions, however, CO concentrations near a congested roadway or intersection may reach unhealthy levels, affecting sensitive receptors such as residents, schoolchildren, hospital patients, and the elderly. Typically, high CO concentrations are associated with roadways or intersections operating at an unacceptable LOS. Projects contributing to adverse traffic impacts may result in the formation of CO hot spots. Per County of San Diego guidelines, a CO hot spot analysis is only required to be conducted for the operational scenario per Section 3.2 of the guidelines (County of San Diego 2007). As indicated in the County of San Diego *Guidelines for Determining Significance and Report Format and Content Requirements Air Quality* (County of San Diego 2007), a site-specific CO hot spot analysis for project operations should be performed if a proposed development would cause road intersections to operate at or below LOS E with intersection peak-hour trips exceeding 3,000. Although a CO hot spot analysis is not required for construction activities, the following analysis is provided for disclosure purposes.

Trip generation and distribution for workers and delivery trucks would ultimately vary depending on the phase of construction; however, based on daily construction worker, vendor trip, and haul truck estimates, maximum daily trips resulting from construction activities would be approximately 25 truck trips per day. This would be well below the screening threshold of a peak hour volume of 3,000 vehicles. Construction trips would occur throughout the day and would not all occur during the peak

hour. No haul trucks associated with import or export of soil during grading would occur because all cut and fill activities would be balanced on site.

Because a construction traffic impact analysis was not prepared and was not warranted, the existing delay and LOS at unsignalized intersections that would be encountered by construction traffic is not known. However, the project area is primarily semi-rural, the population is low, and local roads are typically traversed by local residents. Regional travel through the area is provided by Interstate 5 and SR-78. Additionally, as stated in the proposed project traffic impact analysis, all intersections within the proposed project study area are currently operating at LOS D or better.

Therefore, the addition of 20 maximum daily construction workers trips would not exceed 3,000 trips at the nearby intersections. For these reasons, construction-related traffic is not expected to affect local intersections and cause an exceedance of the CO CAAQS. Impacts would be less than significant.

Toxic Air Contaminants: Diesel Particulate Matter. Project construction would result in emissions of DPM from heavy-duty construction equipment, engine-generators, and trucks operating on the project site. As previously discussed, DPM is characterized as a TAC by the CARB. The OEHHA has identified carcinogenic and chronic noncarcinogenic effects from long-term (chronic) exposure, but it has not identified health effects due to short-term (acute) exposure to DPM. Sensitive receptors in the project vicinity consist of scattered residences located at various locations near the project site.

The nearest sensitive receptors to the project site are residences located approximately 60 feet from the western section of the project site. To analyze impacts to off-site receptors, a discrete receptor point was placed to determine the maximally exposed individual. The maximum concentration, and thus, maximum impact, would occur approximately 30 feet (10 meters) from the construction volume sources.

- **DPM Concentrations.** DPM emissions would be released from the on-site construction equipment and from haul trucks associated with the project. The CARB has declared that DPM from diesel engine exhaust is a TAC. Additionally, the OEHHA has determined that chronic exposure to DPM can cause carcinogenic and non-carcinogenic health effects.

  The EPA SCREEN3 model, the screening air dispersion modeling method approved by the CARB for such assessments was used to estimate concentrations of DPM from the construction of the project. The DPM construction equipment emissions were estimated from emissions calculation and amount to 0.0269 ton per year of DPM (as PM_{10} exhaust). The emissions were represented in the model as an area source equal to the size of the project's construction area (4 acres). An emissions release height of 10 feet (3 meters) from construction equipment was also assumed. Receptor locations where construction impacts were calculated focused on the sensitive receptors located west, south, east, and northeast of the project site.

Cancer Health Risk Assessment Methodology. The cancer risk is calculated by multiplying the annual average concentrations calculated using the SCREEN3 model and an inhalation exposure factor. The annual average concentration at the closest receptor is calculated from SCREEN3 in $\mu g/m^3$. With the worst-case meteorological condition under SCREEN3, the highest 1-hour DPM concentration value at a sensitive receptor located 193 feet from the project site was calculated to

be 4.9 µg/m^3. The SCREEN3 model outputs and screening health risk calculations are provided in Appendix B of this report. Table J shows the other values listed in Equation 1, below.

Table J: Inhalation Exposure Factor Values for Sensitive Receptors

Receptor	CPF (mg/kg-day)-1	DBR (liters/kg-day)	EF (days/year)	ED (years)	AT (days)
Construction (DPM)	1.1	335 – 1,090	50	0.7	25,550

CPF = inhalation cancer potency factor (from OEHHA 2015)
DPM = diesel particulate matter
DBR = daily breathing rate (OEHHA 2015. Table 5.6, 1,090 for age 0-2 years, 861 for age 2-9 years , 745 for age 9-16 years, 335 for 16-30)
EF = exposure frequency
ED = exposure duration (for construction, this represents the construction period of 6 months)
AT = average time period over which the exposure is averaged.
Source: OEHHA 2015.

Applying Equations 1 and 2 with the values for the various factors shown in Table J, the Cancer Risk is calculated as follows:

Construction Cancer Risk DPM = C_{DPM} (average DPM concentration from SCREEN3 in µg/m^3) × (risk per million for sensitive/residential receptors)

- **Non-Cancer Health Risk Characterization: Chronic Non-Cancer Impacts.** Exposures to TACs such as DPM can also cause chronic (long-term) and acute (short-term) related non-cancer illnesses such as reproductive effects, respiratory effects, eye sensitivity, immune effects, kidney effects, blood effects, central nervous system, birth defects, or other adverse environmental effects. Risk characterization for non-cancer health risks is expressed as an HI. The HI is a ratio of the predicted concentration of a project's emissions to a concentration considered acceptable to public health professionals, termed the REL. DPM has effects on the respiratory system, which accounts for essentially all of the potential chronic non-cancer hazards from DPM. Therefore, the only HI calculated was for the respiratory system.

  Table K provides the results of the construction HRA for project construction along with the SDCAPCD's health risk significance thresholds. As shown in the table, the construction emissions would not exceed the SDCAPCD's health risk significance thresholds for cancer risk and chronic non-cancer hazard.

Table K: Construction Health Risk Assessment Results

Metric	Health Risk Estimate[1]	District's Significance Threshold	Exceeds Threshold?
Maximally Exposed Individual Resident (MEIR) Cancer Risk[2]	0.6 in 1 million	1 in 1 million (without T-BACT)	No
Chronic Non-Cancer Hazard Index from DPM[3]	0.04	1.0	No

Notes:
1 Computed at the nearest sensitive receptor located approximately 60 feet north of the project boundary.
2 While continuous emissions use an exposure frequency of 70 years, construction will only last six months; thus, this HRA assumes an exposure frequency of 50 days, exposure duration of 0.5 year, and an age sensitivity factor of 1 (OEHHA 2015).
3 Assumes a chronic DPM reference exposure level of 5 µg/m^3 (OEHHA 2015).
Source: LSA 2019 (Appendix B).

Diesel exhaust particulate matter is known to contain carcinogenic compounds. The risks associated with carcinogenic effects are typically evaluated based on a residence lifetime of chronic exposure (i.e., 24 hours per day, seven days per week, and 365 days per year for 30 years). Because the project-related construction emissions of diesel exhaust would occur for less than one year, the proposed project would not result in long-term chronic lifetime exposure to diesel exhaust from heavy-duty diesel equipment. Since exposure levels to diesel exhaust particulate matter would decrease as receptors are farther away from the construction site, emissions from the project would not be reasonably expected to affect the nearby sensitive receptors. Therefore, air quality impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant.

4.3.1.3 Mitigation Measures and Design Considerations

No mitigation is required.

4.3.1.4 Significance of Impacts following Mitigation

No impacts would result from the creation of CO hot spots during construction; therefore, impacts related to carbon monoxide near sensitive receptors would be less than significant. Impacts related to cancer risk and chronic hazard from DPM would be below the County of San Diego health risk thresholds during construction activities; therefore, impacts would be less than significant.

4.3.2 Operational Impacts

4.3.2.1 Guidelines for the Determination of Significance

A significant impact would result if:

- The project places sensitive receptors near CO hot spots or creates CO hots pots near sensitive receptors.
- Project implementation would result in exposure to TACs resulting in:
    - A maximum incremental cancer risk equal to or greater than 10 in one million with the application of T-BACT, or
    - Cancer burden equal to or greater than 1.0, or
    - Total acute non-cancer health hazard index equal to or greater than 1.0, or
    - Total chronic non-cancer health hazard index equal to or greater than 1.0.

4.3.2.2 Significance of Impacts Prior to Mitigation

Carbon Monoxide. Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found within close proximity to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized "hot spots" of CO off site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such

as in stop-and-go traffic or through heavily congested intersections, where the LOS is severely degraded.

The CARB also recommends evaluation of the potential for the formation of locally high concentrations of CO, known as CO hot spots. A CO hot spot is a localized concentration of CO that is above the State or national 1-hour or 8-hour CO ambient air standards. To verify that the project would not cause or contribute to a violation of the 1-hour and 8-hour CO standards, an evaluation of the potential for CO hot spots at nearby intersections was conducted.

The Guidelines for Determining Significance for Air Quality (County of San Diego 2007) CO hot spot screening guidance was followed to determine if the project would require a site-specific hot spot analysis. In the event the proposed project traffic adds vehicular trips to either an intersection that operates at LOS E or F or any intersection where the project trips re-classifies the intersection level of service to LOS E or F and when peak-hour trips exceed 3,000, the project must quantify CO levels. Because the County threshold for a traffic study is 200 ADT, the proposed project would not require a traffic study. The project would add 138 trips to the local intersections, which would not degrade an existing intersection LOS from an acceptable level (D or better) to LOS E or F. Therefore, impacts from CO "hot spots" would be less than significant.

Operation-related Health Risk. The proposed project would not typically generate any TAC emissions. As shown in Table I, the criteria pollutant emissions from the estimated project-related 138 vehicle trips per day and on-site area sources would all be far below their respective significant thresholds. Because the significance thresholds were developed with the intent to protect human health to the extent feasible, the results show that the proposed project would not expose existing nearby sensitive receptors to substantial pollutant burdens that would cause harmful effects. Therefore, the operational impacts of the land use in relation to generation of air pollutants would be less than significant.

4.3.3 Mitigation Measures and Design Considerations

No additional design consideration or mitigation is required.

4.3.4 Significance of Impacts following Mitigation

Impacts to sensitive receptors from CO and TACs would be less than significant.

4.4 ODOR IMPACTS

4.4.1 Guidelines for the Determination of Significance

Based on the County Guidelines (2007), a project would have a significant impact if it would generate objectionable odors or place sensitive receptors next to existing objectionable odors that would affect a considerable number of persons or the public.

SDCAPCD Rule 51 (Public Nuisance) and California Health & Safety Code, Division 26, Part 4, Chapter 3, Section 541700, prohibit the emission of any material that causes nuisance to a considerable number of persons or endangers the comfort, health, or safety of the public. Projects required to obtain permits from the SDCAPCD, typically industrial and some commercial projects, are evaluated

by SDCAPCD staff for potential odor nuisance and conditions may be applied (or control equipment required), where necessary, to prevent occurrence of public nuisance.

4.4.2 Significance of Impacts Prior to Mitigation

Potential odor sources associated with the proposed project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities and the temporary storage of typical solid waste (refuse) associated with the proposed project's (long-term operational) uses. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature, would cease upon completion of the respective phase of construction, and are thus considered less than significant. During operation of the cemetery, no odors would be generated from interment of human remains that are casketed and buried in the ground. The casket is typically placed in a concrete outer enclosure (vault), which is covered with two feet of soil. The entombment of casketed remains does not create odors. The exhaust from grave preparation and landscape maintenance equipment would potentially generate odors, but these would be used intermittently at a large distance from nearby residents and therefore would not likely result in an odor impact. In addition, it is expected that project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's solid waste regulations. No odor emissions would occur.

The proposed project would also be required to comply with SDCAPCD Rule 51 to prevent occurrences of public nuisances. Therefore, potential odors associated with the proposed project construction and operation would be less than significant and no mitigation is required.

4.4.3 Mitigation Measures and Design Considerations

Because the project would not generate objectionable odors or place sensitive receptors near existing odor sources that would affect a considerable number of persons or the public, no mitigation measures or additional design considerations are required.

4.4.4 Significance of Impacts Following Mitigation

Due to the nature of the development, there are no significant odorous emissions anticipated from normal operations at the project site. Impacts would be less than significant.

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APPENDIX A

CALEEMOD PRINTOUTS

Good Shepard Cemetery Project

San Diego County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	14.16	User Defined Unit	14.16	2,396.00	0
Parking Lot	37.00	Space	0.33	14,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Proposed project would include a cemetery with a 2,176 sf admin office and 220 sf gatehouse structures on 14.49 acres. A user defined commercial land use is selected for the cemetery.

Construction Phase - CalEEMod default phase schedule duration with construction to run approximately 6 months starting in Jan 2022, estimate timelines based on the project size and use inputs.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Demolition - Approx. 1,726sf house and 900sf nursery greenhouse structures to be demolished.

Grading - Total grading cut and fill is 13,100cy with net import of 2,500cy.

Vehicle Trips - Trip rates per project traffic study.

Fleet Mix - Fleet mix per the project description

Area Coating - Areas per project plans

Energy Use - Use similar lighting energy intensity data from parking lot and admin office park land uses.

Water And Wastewater - Assumed 1,191,481 million gallons per acre per year to irrigate cemetery lawn and plants, similar to City Park land uses.

Solid Waste - Assumed 1.3 tons of solid waste per year based on CalEEMod default rate of 0.09 ton per acre per year.

Operational Off-Road Equipment - Grave site prep backhoe and lawn mower

Sequestration - Assumed 20 new trees to be planted

Construction Off-road Equipment Mitigation - Fugitive dust emission would be controlled by on-site watering at least 3 times daily. Replace ground cover in disturbed areas as quickly as possible. Limit vehicle speed for all construction vehicles to less than 15 mph.

Water Mitigation - Utilized water efficient irrgation system and low-flow fixtures

Waste Mitigation - Implement recycling and composting

Architectural Coating - Area amounts per project plans

Landscape Equipment - Landscape equipment includes gasoline powered lawnmower, which operates year round.

Trips and VMT - Trip rates per project plans

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,198.00	6,088.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	3,594.00	18,264.00
tblAreaCoating	Area_Nonresidential_Exterior	1198	6088
tblAreaCoating	Area_Nonresidential_Interior	3594	18264
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	20.00

tblEnergyUse	LightingElect	0.00	3.91
tblEnergyUse	NT24E	0.00	6.01
tblEnergyUse	T24E	0.00	5.86
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.60	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.01	0.00
tblFleetMix	LHD2	5.4350e-003	0.00
tblFleetMix	MCY	5.9380e-003	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MH	1.0560e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.9340e-003	0.00
tblFleetMix	SBUS	7.5700e-004	0.00
tblFleetMix	UBUS	1.8880e-003	0.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandscapeEquipment	NumberSummerDays	180	260
tblLandUse	LandUseSquareFeet	0.00	2,396.00
tblLandUse	LotAcreage	0.00	14.16
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	20.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1.30
tblTripsAndVMT	HaulingTripNumber	313.00	312.00
tblTripsAndVMT	VendorTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	7.00	10.00
tblTripsAndVMT	WorkerTripNumber	1.00	2.00
tblVehicleEF	LDA	0.58	0.58

tblVehicleEF	LDA	1.39	1.39
tblVehicleEF	LDA	248.05	253.06
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8380e-003	1.8501e-003
tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.65	0.65
tblVehicleEF	LDA	1.15	1.16
tblVehicleEF	LDA	262.13	267.43
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8380e-003	1.8501e-003

tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.56	0.57
tblVehicleEF	LDA	1.49	1.50
tblVehicleEF	LDA	245.50	250.46
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	1.8380e-003	1.8501e-003
tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02

tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.12	0.12
tblVehicleEF	LDT1	1.15	1.16
tblVehicleEF	LDT1	2.76	2.77
tblVehicleEF	LDT1	318.80	325.24
tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.11	0.11

tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.21	0.21
tblVehicleEF	LDT1	1.28	1.28
tblVehicleEF	LDT1	2.27	2.28
tblVehicleEF	LDT1	336.12	342.91
tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.29	0.29
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.29	0.29
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	1.13	1.14
tblVehicleEF	LDT1	2.97	2.98
tblVehicleEF	LDT1	315.67	322.04

tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.31	0.31
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.31	0.31
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT2	0.65	0.65
tblVehicleEF	LDT2	1.31	1.31
tblVehicleEF	LDT2	352.67	359.80
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003

tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.72	0.72
tblVehicleEF	LDT2	1.09	1.09
tblVehicleEF	LDT2	372.26	379.78
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06

tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.63	0.63
tblVehicleEF	LDT2	1.41	1.41
tblVehicleEF	LDT2	349.13	356.18
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08

tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	MDV	0.94	0.94
tblVehicleEF	MDV	2.31	2.32
tblVehicleEF	MDV	472.46	482.00
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.04	1.05
tblVehicleEF	MDV	1.92	1.92
tblVehicleEF	MDV	498.02	508.08
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.10	0.10

tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.92	0.92
tblVehicleEF	MDV	2.49	2.49
tblVehicleEF	MDV	467.83	477.28
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.21	0.21
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.20
tblVehicleTrips	CNW_TTP	0.00	90.00
tblVehicleTrips	CW_TTP	0.00	10.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	9.52
tblVehicleTrips	SU_TR	0.00	9.52
tblVehicleTrips	WD_TR	0.00	9.52
tblWater	OutdoorWaterUseRate	0.00	1,191,481.00

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					

2022	0.2773	1.3312	1.0978	2.2300e-003	0.2315	0.0598	0.2912	0.1064	0.0553	0.1617	0.0000	196.9437	196.9437	0.0549	0.0000	198.3170
Maximum	**0.2773**	**1.3312**	**1.0978**	**2.2300e-003**	**0.2315**	**0.0598**	**0.2912**	**0.1064**	**0.0553**	**0.1617**	**0.0000**	**196.9437**	**196.9437**	**0.0549**	**0.0000**	**198.3170**

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					
2022	0.2773	1.3312	1.0978	2.2300e-003	0.0874	0.0598	0.1472	0.0390	0.0553	0.0943	0.0000	196.9434	196.9434	0.0549	0.0000	198.3168
Maximum	**0.2773**	**1.3312**	**1.0978**	**2.2300e-003**	**0.0874**	**0.0598**	**0.1472**	**0.0390**	**0.0553**	**0.0943**	**0.0000**	**196.9434**	**196.9434**	**0.0549**	**0.0000**	**198.3168**

	ROG	NOx	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**	**62.23**	**0.00**	**49.46**	**63.33**	**0.00**	**41.67**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-3-2022	4-2-2022	1.1749	1.1749
2	4-3-2022	7-2-2022	0.4129	0.4129
		Highest	1.1749	1.1749

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	0.0250	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	14.0491	14.0491	5.7000e-004	1.2000e-004	14.0981
Mobile	0.0349	0.1394	0.4210	1.5200e-003	0.1391	1.1800e-003	0.1402	0.0372	1.1000e-003	0.0383	0.0000	142.1695	142.1695	7.0600e-003	0.0000	142.3459
Offroad	0.0394	0.3993	0.5801	8.1000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	71.1323	71.1323	0.0230	0.0000	71.7074
Waste						0.0000	0.0000		0.0000	0.0000	0.2639	0.0000	0.2639	0.0156	0.0000	0.6538
Water						0.0000	0.0000		0.0000	0.0000	0.0000	4.3261	4.3261	1.7000e-004	4.0000e-005	4.3412
Total	**0.0993**	**0.5387**	**1.0018**	**2.3300e-003**	**0.1391**	**0.0209**	**0.1599**	**0.0372**	**0.0192**	**0.0565**	**0.2639**	**231.6783**	**231.9422**	**0.0464**	**1.6000e-004**	**233.1478**

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	0.0250	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	14.0491	14.0491	5.7000e-004	1.2000e-004	14.0981
Mobile	0.0349	0.1394	0.4210	1.5200e-003	0.1391	1.1800e-003	0.1402	0.0372	1.1000e-003	0.0383	0.0000	142.1695	142.1695	7.0600e-003	0.0000	142.3459
Offroad	0.0394	0.3993	0.5801	8.1000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	71.1323	71.1323	0.0230	0.0000	71.7074

Waste						0.0000	0.0000		0.0000	0.0000	0.0660	0.0000	0.0660	3.9000e-003	0.0000	0.1634
Water						0.0000	0.0000		0.0000	0.0000	0.0000	4.0622	4.0622	1.6000e-004	3.0000e-005	4.0764
Total	**0.0993**	**0.5387**	**1.0018**	**2.3300e-003**	**0.1391**	**0.0209**	**0.1599**	**0.0372**	**0.0192**	**0.0565**	**0.0660**	**231.4144**	**231.4804**	**0.0347**	**1.5000e-004**	**232.3927**

	ROG	NOx	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**	**75.00**	**0.11**	**0.20**	**25.23**	**6.25**	**0.32**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	14.1600
Total	**14.1600**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	3/25/2022	5	30	

4	Building Construction	Building Construction	3/26/2022	4/22/2022	5	20	
5	Paving	Paving	4/23/2022	5/20/2022	5	20	
6	Architectural Coating	Architectural Coating	5/21/2022	6/17/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 18,264; Non-Residential Outdoor: 6,088; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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
Demolition	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	312.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.3100e-003	0.0000	1.3100e-003	2.0000e-004	0.0000	2.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289

Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**	**1.3100e-003**	**0.0124**	**0.0137**	**2.0000e-004**	**0.0116**	**0.0118**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

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	4.0000e-005	1.4300e-003	3.8000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4510	0.4510	4.0000e-005	0.0000	0.4520
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.4000e-004	3.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0123	1.0123	3.0000e-005	0.0000	1.0130
Total	**5.3000e-004**	**1.7700e-003**	**3.8600e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3200e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.4632**	**1.4632**	**7.0000e-005**	**0.0000**	**1.4650**

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					4.6000e-004	0.0000	4.6000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0264	0.2572	0.2059	3.9000e-004		0.0124	0.0124		0.0116	0.0116	0.0000	33.9902	33.9902	9.5500e-003	0.0000	34.2289
Total	**0.0264**	**0.2572**	**0.2059**	**3.9000e-004**	**4.6000e-004**	**0.0124**	**0.0129**	**7.0000e-005**	**0.0116**	**0.0116**	**0.0000**	**33.9902**	**33.9902**	**9.5500e-003**	**0.0000**	**34.2289**

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	4.0000e-005	1.4300e-003	3.8000e-004	0.0000	1.0000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.4510	0.4510	4.0000e-005	0.0000	0.4520
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.4000e-004	3.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0123	1.0123	3.0000e-005	0.0000	1.0130
Total	**5.3000e-004**	**1.7700e-003**	**3.8600e-003**	**1.0000e-005**	**1.3000e-003**	**1.0000e-005**	**1.3200e-003**	**3.5000e-004**	**1.0000e-005**	**3.6000e-004**	**0.0000**	**1.4632**	**1.4632**	**7.0000e-005**	**0.0000**	**1.4650**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.0000e-004	2.0900e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6074	0.6074	2.0000e-005	0.0000	0.6078
Total	**3.0000e-004**	**2.0000e-004**	**2.0900e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6074**	**0.6074**	**2.0000e-005**	**0.0000**	**0.6078**

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					0.0317	0.0000	0.0317	0.0174	0.0000	0.0174	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0159	0.1654	0.0985	1.9000e-004		8.0600e-003	8.0600e-003		7.4200e-003	7.4200e-003	0.0000	16.7197	16.7197	5.4100e-003	0.0000	16.8549
Total	**0.0159**	**0.1654**	**0.0985**	**1.9000e-004**	**0.0317**	**8.0600e-003**	**0.0398**	**0.0174**	**7.4200e-003**	**0.0249**	**0.0000**	**16.7197**	**16.7197**	**5.4100e-003**	**0.0000**	**16.8549**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.0000e-004	2.0900e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6074	0.6074	2.0000e-005	0.0000	0.6078
Total	**3.0000e-004**	**2.0000e-004**	**2.0900e-003**	**1.0000e-005**	**7.2000e-004**	**0.0000**	**7.3000e-004**	**1.9000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**0.6074**	**0.6074**	**2.0000e-005**	**0.0000**	**0.6078**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1303	0.0000	0.1303	0.0540	0.0000	0.0540	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8019	81.8019	0.0265	0.0000	82.4633
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.1303**	**0.0245**	**0.1548**	**0.0540**	**0.0226**	**0.0765**	**0.0000**	**81.8019**	**81.8019**	**0.0265**	**0.0000**	**82.4633**

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	1.1000e-003	0.0373	9.9800e-003	1.2000e-004	2.6700e-003	1.0000e-004	2.7700e-003	7.3000e-004	1.0000e-004	8.3000e-004	0.0000	11.7254	11.7254	1.0600e-003	0.0000	11.7520
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	9.9000e-004	6.8000e-004	6.9600e-003	2.0000e-005	2.4100e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.0245	2.0245	6.0000e-005	0.0000	2.0259
Total	**2.0900e-003**	**0.0379**	**0.0169**	**1.4000e-004**	**5.0800e-003**	**1.2000e-004**	**5.1900e-003**	**1.3700e-003**	**1.2000e-004**	**1.4800e-003**	**0.0000**	**13.7500**	**13.7500**	**1.1200e-003**	**0.0000**	**13.7779**

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					0.0457	0.0000	0.0457	0.0189	0.0000	0.0189	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0544	0.5827	0.4356	9.3000e-004		0.0245	0.0245		0.0226	0.0226	0.0000	81.8018	81.8018	0.0265	0.0000	82.4632
Total	**0.0544**	**0.5827**	**0.4356**	**9.3000e-004**	**0.0457**	**0.0245**	**0.0703**	**0.0189**	**0.0226**	**0.0415**	**0.0000**	**81.8018**	**81.8018**	**0.0265**	**0.0000**	**82.4632**

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	1.1000e-003	0.0373	9.9800e-003	1.2000e-004	2.6700e-003	1.0000e-004	2.7700e-003	7.3000e-004	1.0000e-004	8.3000e-004	0.0000	11.7254	11.7254	1.0600e-003	0.0000	11.7520
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	9.9000e-004	6.8000e-004	6.9600e-003	2.0000e-005	2.4100e-003	2.0000e-005	2.4200e-003	6.4000e-004	2.0000e-005	6.5000e-004	0.0000	2.0245	2.0245	6.0000e-005	0.0000	2.0259
Total	**2.0900e-003**	**0.0379**	**0.0169**	**1.4000e-004**	**5.0800e-003**	**1.2000e-004**	**5.1900e-003**	**1.3700e-003**	**1.2000e-004**	**1.4800e-003**	**0.0000**	**13.7500**	**13.7500**	**1.1200e-003**	**0.0000**	**13.7779**

3.5 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	0.0171	0.1562	0.1636	2.7000e-004		8.0900e-003	8.0900e-003		7.6100e-003	7.6100e-003	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**0.0171**	**0.1562**	**0.1636**	**2.7000e-004**		**8.0900e-003**	**8.0900e-003**		**7.6100e-003**	**7.6100e-003**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

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	1.2000e-004	3.8800e-003	1.0400e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0359	1.0359	8.0000e-005	0.0000	1.0377
Worker	3.3000e-004	2.3000e-004	2.3200e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6748	0.6748	2.0000e-005	0.0000	0.6753
Total	**4.5000e-004**	**4.1100e-003**	**3.3600e-003**	**2.0000e-005**	**1.0700e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.7107**	**1.7107**	**1.0000e-004**	**0.0000**	**1.7130**

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	0.0171	0.1562	0.1636	2.7000e-004		8.0900e-003	8.0900e-003		7.6100e-003	7.6100e-003	0.0000	23.1725	23.1725	5.5500e-003	0.0000	23.3113
Total	**0.0171**	**0.1562**	**0.1636**	**2.7000e-004**		**8.0900e-003**	**8.0900e-003**		**7.6100e-003**	**7.6100e-003**	**0.0000**	**23.1725**	**23.1725**	**5.5500e-003**	**0.0000**	**23.3113**

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	1.2000e-004	3.8800e-003	1.0400e-003	1.0000e-005	2.7000e-004	1.0000e-005	2.7000e-004	8.0000e-005	1.0000e-005	8.0000e-005	0.0000	1.0359	1.0359	8.0000e-005	0.0000	1.0377
Worker	3.3000e-004	2.3000e-004	2.3200e-003	1.0000e-005	8.0000e-004	1.0000e-005	8.1000e-004	2.1000e-004	1.0000e-005	2.2000e-004	0.0000	0.6748	0.6748	2.0000e-005	0.0000	0.6753
Total	**4.5000e-004**	**4.1100e-003**	**3.3600e-003**	**2.0000e-005**	**1.0700e-003**	**2.0000e-005**	**1.0800e-003**	**2.9000e-004**	**2.0000e-005**	**3.0000e-004**	**0.0000**	**1.7107**	**1.7107**	**1.0000e-004**	**0.0000**	**1.7130**

3.6 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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0115**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0276**	**20.0276**	**6.4800e-003**	**0.0000**	**20.1895**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.4000e-004	3.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0123	1.0123	3.0000e-005	0.0000	1.0130
Total	**4.9000e-004**	**3.4000e-004**	**3.4800e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0123**	**1.0123**	**3.0000e-005**	**0.0000**	**1.0130**

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	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	4.3000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0115**	**0.1113**	**0.1458**	**2.3000e-004**		**5.6800e-003**	**5.6800e-003**		**5.2200e-003**	**5.2200e-003**	**0.0000**	**20.0275**	**20.0275**	**6.4800e-003**	**0.0000**	**20.1895**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	4.9000e-004	3.4000e-004	3.4800e-003	1.0000e-005	1.2000e-003	1.0000e-005	1.2100e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0123	1.0123	3.0000e-005	0.0000	1.0130
Total	**4.9000e-004**	**3.4000e-004**	**3.4800e-003**	**1.0000e-005**	**1.2000e-003**	**1.0000e-005**	**1.2100e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0123**	**1.0123**	**3.0000e-005**	**0.0000**	**1.0130**

3.7 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	0.1462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

Total	**0.1483**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

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	7.0000e-005	5.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1350	0.1350	0.0000	0.0000	0.1351
Total	**7.0000e-005**	**5.0000e-005**	**4.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1350**	**0.1350**	**0.0000**	**0.0000**	**0.1351**

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	0.1462					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	**0.1483**	**0.0141**	**0.0181**	**3.0000e-005**		**8.2000e-004**	**8.2000e-004**		**8.2000e-004**	**8.2000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.7000e-004**	**0.0000**	**2.5574**

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	7.0000e-005	5.0000e-005	4.6000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1350	0.1350	0.0000	0.0000	0.1351
Total	**7.0000e-005**	**5.0000e-005**	**4.6000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1350**	**0.1350**	**0.0000**	**0.0000**	**0.1351**

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	0.0349	0.1394	0.4210	1.5200e-003	0.1391	1.1800e-003	0.1402	0.0372	1.1000e-003	0.0383	0.0000	142.1695	142.1695	7.0600e-003	0.0000	142.3459
Unmitigated	0.0349	0.1394	0.4210	1.5200e-003	0.1391	1.1800e-003	0.1402	0.0372	1.1000e-003	0.0383	0.0000	142.1695	142.1695	7.0600e-003	0.0000	142.3459

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
User Defined Commercial	134.80	134.80	134.80	368,994	368,994
Total	134.80	134.80	134.80	368,994	368,994

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Commercial	9.50	7.30	7.30	10.00	0.00	90.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Commercial	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

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	14.0491	14.0491	5.7000e-004	1.2000e-004	14.0981
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	14.0491	14.0491	5.7000e-004	1.2000e-004	14.0981
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	5180	1.6929	7.0000e-005	1.0000e-005	1.6988
User Defined Commercial	37808.9	12.3563	5.0000e-004	1.0000e-004	12.3994
Total		**14.0491**	**5.7000e-004**	**1.1000e-004**	**14.0981**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Parking Lot	5180	1.6929	7.0000e-005	1.0000e-005	1.6988
User Defined Commercial	37808.9	12.3563	5.0000e-004	1.0000e-004	12.3994
Total		**14.0491**	**5.7000e-004**	**1.1000e-004**	**14.0981**

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	0.0250	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003
Unmitigated	0.0250	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0103					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003
Total	**0.0250**	**1.0000e-005**	**6.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3200e-003**	**1.3200e-003**	**0.0000**	**0.0000**	**1.4100e-003**

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	0.0146					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0103					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	6.0000e-005	1.0000e-005	6.8000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.3200e-003	1.3200e-003	0.0000	0.0000	1.4100e-003
Total	**0.0250**	**1.0000e-005**	**6.8000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.3200e-003**	**1.3200e-003**	**0.0000**	**0.0000**	**1.4100e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	4.0622	1.6000e-004	3.0000e-005	4.0764

Unmitigated	4.3261	1.7000e-004	4.0000e-005	4.3412

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 1.19148	4.3261	1.7000e-004	4.0000e-005	4.3412
Total		**4.3261**	**1.7000e-004**	**4.0000e-005**	**4.3412**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0 / 1.1188	4.0622	1.6000e-004	3.0000e-005	4.0764
Total		**4.0622**	**1.6000e-004**	**3.0000e-005**	**4.0764**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0660	3.9000e-003	0.0000	0.1634
Unmitigated	0.2639	0.0156	0.0000	0.6538

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	1.3	0.2639	0.0156	0.0000	0.6538
Total		**0.2639**	**0.0156**	**0.0000**	**0.6538**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	0.325	0.0660	3.9000e-003	0.0000	0.1634
Total		**0.0660**	**3.9000e-003**	**0.0000**	**0.1634**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	8.00	260	97	0.37	Diesel

UnMitigated/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
Equipment Type	tons/yr										MT/yr					
Tractors/Loaders/Backhoes	0.0394	0.3993	0.5801	8.1000e-004		0.0197	0.0197		0.0181	0.0181	0.0000	71.1323	71.1323	0.0230	0.0000	71.7074
Total	**0.0394**	**0.3993**	**0.5801**	**8.1000e-004**		**0.0197**	**0.0197**		**0.0181**	**0.0181**	**0.0000**	**71.1323**	**71.1323**	**0.0230**	**0.0000**	**71.7074**

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

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	14.1600	0.0000	0.0000	14.1600

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e

		MT			
Miscellaneous	20	14.1600	0.0000	0.0000	14.1600
Total		**14.1600**	**0.0000**	**0.0000**	**14.1600**

Good Shepard Cemetery Project

San Diego County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	14.16	User Defined Unit	14.16	2,396.00	0
Parking Lot	37.00	Space	0.33	14,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Proposed project would include a cemetery with a 2,176 sf admin office and 220 sf gatehouse structures on 14.49 acres. A user defined commercial land use is selected for the cemetery.

Construction Phase - CalEEMod default phase schedule duration with construction to run approximately 6 months starting in Jan 2022, estimate timelines based on the project size and use inputs.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Demolition - Approx. 1,726sf house and 900sf nursery greenhouse structures to be demolished.

Grading - Total grading cut and fill is 13,100cy with net import of 2,500cy.

Vehicle Trips - Trip rates per project traffic study.

Fleet Mix - Fleet mix per the project description

Area Coating - Areas per project plans

Energy Use - Use similar lighting energy intensity data from parking lot and admin office park land uses.

Water And Wastewater - Assumed 1,191,481 million gallons per acre per year to irrigate cemetery lawn and plants, similar to City Park land uses.

Solid Waste - Assumed 1.3 tons of solid waste per year based on CalEEMod default rate of 0.09 ton per acre per year.

Operational Off-Road Equipment - Grave site prep backhoe and lawn mower

Sequestration - Assumed 20 new trees to be planted

Construction Off-road Equipment Mitigation - Fugitive dust emission would be controlled by on-site watering at least 3 times daily. Replace ground cover in disturbed areas as quickly as possible. Limit vehicle speed for all construction vehicles to less than 15 mph.

Water Mitigation - Utilized water efficient irrgation system and low-flow fixtures

Waste Mitigation - Implement recycling and composting

Architectural Coating - Area amounts per project plans

Landscape Equipment - Landscape equipment includes gasoline powered lawnmower, which operates year round.

Trips and VMT - Trip rates per project plans

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,198.00	6,088.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	3,594.00	18,264.00
tblAreaCoating	Area_Nonresidential_Exterior	1198	6088
tblAreaCoating	Area_Nonresidential_Interior	3594	18264
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	20.00

tblEnergyUse	LightingElect	0.00	3.91
tblEnergyUse	NT24E	0.00	6.01
tblEnergyUse	T24E	0.00	5.86
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.60	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.01	0.00
tblFleetMix	LHD2	5.4350e-003	0.00
tblFleetMix	MCY	5.9380e-003	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MH	1.0560e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.9340e-003	0.00
tblFleetMix	SBUS	7.5700e-004	0.00
tblFleetMix	UBUS	1.8880e-003	0.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandscapeEquipment	NumberSummerDays	180	260
tblLandUse	LandUseSquareFeet	0.00	2,396.00
tblLandUse	LotAcreage	0.00	14.16
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	20.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1.30
tblTripsAndVMT	HaulingTripNumber	313.00	312.00
tblTripsAndVMT	VendorTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	7.00	10.00
tblTripsAndVMT	WorkerTripNumber	1.00	2.00
tblVehicleEF	LDA	0.58	0.58

tblVehicleEF	LDA	1.39	1.39
tblVehicleEF	LDA	248.05	253.06
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8380e-003	1.8501e-003
tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
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tblVehicleEF	LDA	0.65	0.65
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tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
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tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
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tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
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tblVehicleEF	LDA	0.08	0.08
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tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02

tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
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tblVehicleEF	LDT1	0.11	0.11

tblVehicleEF	LDT1	0.04	0.04
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tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.16	0.16
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tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.17	0.17
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tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
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tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.31	0.31
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.23
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tblVehicleEF	LDT2	1.6780e-003	1.6891e-003

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tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.72	0.72
tblVehicleEF	LDT2	1.09	1.09
tblVehicleEF	LDT2	372.26	379.78
tblVehicleEF	LDT2	76.85	78.41
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tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06

tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.63	0.63
tblVehicleEF	LDT2	1.41	1.41
tblVehicleEF	LDT2	349.13	356.18
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08

tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	MDV	0.94	0.94
tblVehicleEF	MDV	2.31	2.32
tblVehicleEF	MDV	472.46	482.00
tblVehicleEF	MDV	101.95	104.01
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tblVehicleEF	MDV	0.20	0.20
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tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.04	1.05
tblVehicleEF	MDV	1.92	1.92
tblVehicleEF	MDV	498.02	508.08
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.10	0.10

tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.92	0.92
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tblVehicleEF	MDV	467.83	477.28
tblVehicleEF	MDV	101.95	104.01
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tblVehicleEF	MDV	0.21	0.21
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.20
tblVehicleTrips	CNW_TTP	0.00	90.00
tblVehicleTrips	CW_TTP	0.00	10.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	9.52
tblVehicleTrips	SU_TR	0.00	9.52
tblVehicleTrips	WD_TR	0.00	9.52
tblWater	OutdoorWaterUseRate	0.00	1,191,481.00

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					

2022	14.8345	41.3240	30.1830	0.0716	18.2141	1.6429	19.8277	9.9699	1.5117	11.4544	0.0000	7,036.3565	7,036.3565	2.0254	0.0000	7,086.9915
Maximum	**14.8345**	**41.3240**	**30.1830**	**0.0716**	**18.2141**	**1.6429**	**19.8277**	**9.9699**	**1.5117**	**11.4544**	**0.0000**	**7,036.3565**	**7,036.3565**	**2.0254**	**0.0000**	**7,086.9915**

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					
2022	14.8345	41.3240	30.1830	0.0716	6.4891	1.6429	8.1027	3.5249	1.5117	5.0094	0.0000	7,036.3565	7,036.3565	2.0254	0.0000	7,086.9915
Maximum	**14.8345**	**41.3240**	**30.1830**	**0.0716**	**6.4891**	**1.6429**	**8.1027**	**3.5249**	**1.5117**	**5.0094**	**0.0000**	**7,036.3565**	**7,036.3565**	**2.0254**	**0.0000**	**7,086.9915**

	ROG	NOx	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**	**64.37**	**0.00**	**59.13**	**64.64**	**0.00**	**56.27**	**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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2031	0.7429	2.3847	8.7000e-003	0.7824	6.4800e-003	0.7888	0.2091	6.0300e-003	0.2151		899.1457	899.1457	0.0430		900.2218
Offroad	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.6430**	**3.8143**	**6.8526**	**0.0149**	**0.7824**	**0.1581**	**0.9405**	**0.2091**	**0.1456**	**0.3546**		**1,502.3099**	**1,502.3099**	**0.2381**	**0.0000**	**1,508.2635**

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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.2031	0.7429	2.3847	8.7000e-003	0.7824	6.4800e-003	0.7888	0.2091	6.0300e-003	0.2151		899.1457	899.1457	0.0430		900.2218
Offroad	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.6430**	**3.8143**	**6.8526**	**0.0149**	**0.7824**	**0.1581**	**0.9405**	**0.2091**	**0.1456**	**0.3546**		**1,502.3099**	**1,502.3099**	**0.2381**	**0.0000**	**1,508.2635**

	ROG	NOx	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	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	3/25/2022	5	30	
4	Building Construction	Building Construction	3/26/2022	4/22/2022	5	20	
5	Paving	Paving	4/23/2022	5/20/2022	5	20	
6	Architectural Coating	Architectural Coating	5/21/2022	6/17/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 18,264; Non-Residential Outdoor: 6,088; Striped Parking Area: 888

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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
Demolition	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	312.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1309	0.0000	0.1309	0.0198	0.0000	0.0198			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.1309**	**1.2427**	**1.3735**	**0.0198**	**1.1553**	**1.1751**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	4.1800e-003	0.1407	0.0374	4.6000e-004	0.0105	4.0000e-004	0.0109	2.8700e-003	3.8000e-004	3.2500e-003		50.0789	50.0789	4.4400e-003		50.1898
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	0.0491	0.0307	0.3700	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.6840	117.6840	3.2000e-003		117.7639
Total	**0.0532**	**0.1715**	**0.4074**	**1.6400e-003**	**0.1337**	**1.2300e-003**	**0.1349**	**0.0356**	**1.1500e-003**	**0.0367**		**167.7629**	**167.7629**	**7.6400e-003**		**167.9537**

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					0.0459	0.0000	0.0459	6.9600e-003	0.0000	6.9600e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0459**	**1.2427**	**1.2886**	**6.9600e-003**	**1.1553**	**1.1622**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	4.1800e-003	0.1407	0.0374	4.6000e-004	0.0105	4.0000e-004	0.0109	2.8700e-003	3.8000e-004	3.2500e-003		50.0789	50.0789	4.4400e-003		50.1898
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	0.0491	0.0307	0.3700	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.6840	117.6840	3.2000e-003		117.7639
Total	**0.0532**	**0.1715**	**0.4074**	**1.6400e-003**	**0.1337**	**1.2300e-003**	**0.1349**	**0.0356**	**1.1500e-003**	**0.0367**		**167.7629**	**167.7629**	**7.6400e-003**		**167.9537**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

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

Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0589	0.0369	0.4440	1.4200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		141.2208	141.2208	3.8400e-003		141.3166
Total	**0.0589**	**0.0369**	**0.4440**	**1.4200e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**141.2208**	**141.2208**	**3.8400e-003**		**141.3166**

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					6.3413	0.0000	6.3413	3.4857	0.0000	3.4857			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**6.3413**	**1.6126**	**7.9538**	**3.4857**	**1.4836**	**4.9692**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0589	0.0369	0.4440	1.4200e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		141.2208	141.2208	3.8400e-003		141.3166
Total	**0.0589**	**0.0369**	**0.4440**	**1.4200e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**141.2208**	**141.2208**	**3.8400e-003**		**141.3166**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6851	0.0000	8.6851	3.5983	0.0000	3.5983			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6851**	**1.6349**	**10.3199**	**3.5983**	**1.5041**	**5.1024**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0725	2.4395	0.6482	7.9000e-003	0.1817	6.8900e-003	0.1886	0.0498	6.5900e-003	0.0564		868.0341	868.0341	0.0769		869.9572
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	0.0654	0.0410	0.4933	1.5700e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		156.9120	156.9120	4.2600e-003		157.0185
Total	**0.1379**	**2.4805**	**1.1415**	**9.4700e-003**	**0.3460**	**8.0000e-003**	**0.3540**	**0.0934**	**7.6100e-003**	**0.1010**		**1,024.9460**	**1,024.9460**	**0.0812**		**1,026.9757**

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					3.0485	0.0000	3.0485	1.2630	0.0000	1.2630			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.0485**	**1.6349**	**4.6833**	**1.2630**	**1.5041**	**2.7671**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0725	2.4395	0.6482	7.9000e-003	0.1817	6.8900e-003	0.1886	0.0498	6.5900e-003	0.0564		868.0341	868.0341	0.0769		869.9572
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	0.0654	0.0410	0.4933	1.5700e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		156.9120	156.9120	4.2600e-003		157.0185
Total	**0.1379**	**2.4805**	**1.1415**	**9.4700e-003**	**0.3460**	**8.0000e-003**	**0.3540**	**0.0934**	**7.6100e-003**	**0.1010**		**1,024.9460**	**1,024.9460**	**0.0812**		**1,026.9757**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.3849	0.0983	1.0700e-003	0.0271	7.4000e-004	0.0278	7.8000e-003	7.0000e-004	8.5000e-003		115.4455	115.4455	8.0700e-003		115.6473

Worker	0.0327	0.0205	0.2466	7.9000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		78.4560	78.4560	2.1300e-003		78.5092
Total	**0.0440**	**0.4054**	**0.3450**	**1.8600e-003**	**0.1092**	**1.3000e-003**	**0.1105**	**0.0296**	**1.2100e-003**	**0.0308**		**193.9015**	**193.9015**	**0.0102**		**194.1566**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0113	0.3849	0.0983	1.0700e-003	0.0271	7.4000e-004	0.0278	7.8000e-003	7.0000e-004	8.5000e-003		115.4455	115.4455	8.0700e-003		115.6473
Worker	0.0327	0.0205	0.2466	7.9000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		78.4560	78.4560	2.1300e-003		78.5092
Total	**0.0440**	**0.4054**	**0.3450**	**1.8600e-003**	**0.1092**	**1.3000e-003**	**0.1105**	**0.0296**	**1.2100e-003**	**0.0308**		**193.9015**	**193.9015**	**0.0102**		**194.1566**

3.6 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	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1461**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0491	0.0307	0.3700	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.6840	117.6840	3.2000e-003		117.7639
Total	**0.0491**	**0.0307**	**0.3700**	**1.1800e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**117.6840**	**117.6840**	**3.2000e-003**		**117.7639**

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	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1461**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0491	0.0307	0.3700	1.1800e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		117.6840	117.6840	3.2000e-003		117.7639
Total	**0.0491**	**0.0307**	**0.3700**	**1.1800e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**117.6840**	**117.6840**	**3.2000e-003**		**117.7639**

3.7 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	14.6234					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	**14.8280**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	6.5400e-003	4.1000e-003	0.0493	1.6000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.6912	15.6912	4.3000e-004		15.7019
Total	**6.5400e-003**	**4.1000e-003**	**0.0493**	**1.6000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.3600e-003**	**1.0000e-004**	**4.4600e-003**		**15.6912**	**15.6912**	**4.3000e-004**		**15.7019**

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	14.6234					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	**14.8280**	**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**

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	6.5400e-003	4.1000e-003	0.0493	1.6000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.6912	15.6912	4.3000e-004		15.7019
Total	**6.5400e-003**	**4.1000e-003**	**0.0493**	**1.6000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.3600e-003**	**1.0000e-004**	**4.4600e-003**		**15.6912**	**15.6912**	**4.3000e-004**		**15.7019**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Category	lb/day										lb/day					
Mitigated	0.2031	0.7429	2.3847	8.7000e-003	0.7824	6.4800e-003	0.7888	0.2091	6.0300e-003	0.2151		899.1457	899.1457	0.0430		900.2218
Unmitigated	0.2031	0.7429	2.3847	8.7000e-003	0.7824	6.4800e-003	0.7888	0.2091	6.0300e-003	0.2151		899.1457	899.1457	0.0430		900.2218

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
User Defined Commercial	134.80	134.80	134.80	368,994	368,994
Total	134.80	134.80	134.80	368,994	368,994

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Commercial	9.50	7.30	7.30	10.00	0.00	90.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Commercial	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Unmitigated	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119

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	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.1371**	**5.0000e-005**	**5.2200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

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	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.1371**	**5.0000e-005**	**5.2200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	8.00	260	97	0.37	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.3027**	**3.0714**	**4.4626**	**6.2300e-003**		**0.1516**	**0.1516**		**0.1395**	**0.1395**		**603.1530**	**603.1530**	**0.1951**		**608.0298**

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

Good Shepard Cemetery Project - San Diego County, Winter

Good Shepard Cemetery Project

San Diego County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Commercial	14.16	User Defined Unit	14.16	2,396.00	0
Parking Lot	37.00	Space	0.33	14,800.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Precipitation Freq (Days)**	40
Climate Zone	13			**Operational Year**	2023
Utility Company	San Diego Gas & Electric				
CO2 Intensity (lb/MWhr)	720.49	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Proposed project would include a cemetery with a 2,176 sf admin office and 220 sf gatehouse structures on 14.49 acres. A user defined commercial land use is selected for the cemetery.

Construction Phase - CalEEMod default phase schedule duration with construction to run approximately 6 months starting in Jan 2022, estimate timelines based on the project size and use inputs.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Demolition - Approx. 1,726sf house and 900sf nursery greenhouse structures to be demolished.

Grading - Total grading cut and fill is 13,100cy with net import of 2,500cy.

Vehicle Trips - Trip rates per project traffic study.

Fleet Mix - Fleet mix per the project description

Area Coating - Areas per project plans

Energy Use - Use similar lighting energy intensity data from parking lot and admin office park land uses.

Water And Wastewater - Assumed 1,191,481 million gallons per acre per year to irrigate cemetery lawn and plants, similar to City Park land uses.

Solid Waste - Assumed 1.3 tons of solid waste per year based on CalEEMod default rate of 0.09 ton per acre per year.

Operational Off-Road Equipment - Grave site prep backhoe and lawn mower

Sequestration - Assumed 20 new trees to be planted

Construction Off-road Equipment Mitigation - Fugitive dust emission would be controlled by on-site watering at least 3 times daily. Replace ground cover in disturbed areas as quickly as possible. Limit vehicle speed for all construction vehicles to less than 15 mph.

Water Mitigation - Utilized water efficient irrgation system and low-flow fixtures

Waste Mitigation - Implement recycling and composting

Architectural Coating - Area amounts per project plans

Landscape Equipment - Landscape equipment includes gasoline powered lawnmower, which operates year round.

Trips and VMT - Trip rates per project plans

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	1,198.00	6,088.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	3,594.00	18,264.00
tblAreaCoating	Area_Nonresidential_Exterior	1198	6088
tblAreaCoating	Area_Nonresidential_Interior	3594	18264
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	300.00	20.00

tblEnergyUse	LightingElect	0.00	3.91
tblEnergyUse	NT24E	0.00	6.01
tblEnergyUse	T24E	0.00	5.86
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.60	1.00
tblFleetMix	LDT1	0.04	0.00
tblFleetMix	LDT2	0.18	0.00
tblFleetMix	LHD1	0.01	0.00
tblFleetMix	LHD2	5.4350e-003	0.00
tblFleetMix	MCY	5.9380e-003	0.00
tblFleetMix	MDV	0.10	0.00
tblFleetMix	MH	1.0560e-003	0.00
tblFleetMix	MHD	0.02	0.00
tblFleetMix	OBUS	1.9340e-003	0.00
tblFleetMix	SBUS	7.5700e-004	0.00
tblFleetMix	UBUS	1.8880e-003	0.00
tblGrading	MaterialImported	0.00	2,500.00
tblLandscapeEquipment	NumberSummerDays	180	260
tblLandUse	LandUseSquareFeet	0.00	2,396.00
tblLandUse	LotAcreage	0.00	14.16
tblOperationalOffRoadEquipment	OperOffRoadEquipmentNumber	0.00	2.00
tblSequestration	NumberOfNewTrees	0.00	20.00
tblSolidWaste	SolidWasteGenerationRate	0.00	1.30
tblTripsAndVMT	HaulingTripNumber	313.00	312.00
tblTripsAndVMT	VendorTripNumber	3.00	4.00
tblTripsAndVMT	WorkerTripNumber	7.00	10.00
tblTripsAndVMT	WorkerTripNumber	1.00	2.00
tblVehicleEF	LDA	0.58	0.58

tblVehicleEF	LDA	1.39	1.39
tblVehicleEF	LDA	248.05	253.06
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8380e-003	1.8501e-003
tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.65	0.65
tblVehicleEF	LDA	1.15	1.16
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tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.07	0.07
tblVehicleEF	LDA	1.8380e-003	1.8501e-003

tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
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tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	0.05	0.05
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.03	0.03
tblVehicleEF	LDA	0.10	0.10
tblVehicleEF	LDA	0.56	0.57
tblVehicleEF	LDA	1.49	1.50
tblVehicleEF	LDA	245.50	250.46
tblVehicleEF	LDA	54.17	55.26
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.08	0.08
tblVehicleEF	LDA	1.8380e-003	1.8501e-003
tblVehicleEF	LDA	2.2710e-003	2.2860e-003
tblVehicleEF	LDA	1.6940e-003	1.7052e-003
tblVehicleEF	LDA	2.0880e-003	2.1018e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02

tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.11	0.11
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.09	0.09
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	0.12	0.12
tblVehicleEF	LDT1	1.15	1.16
tblVehicleEF	LDT1	2.76	2.77
tblVehicleEF	LDT1	318.80	325.24
tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.10	0.10
tblVehicleEF	LDT1	0.27	0.27
tblVehicleEF	LDT1	0.11	0.11

tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.19	0.19
tblVehicleEF	LDT1	0.21	0.21
tblVehicleEF	LDT1	1.28	1.28
tblVehicleEF	LDT1	2.27	2.28
tblVehicleEF	LDT1	336.12	342.91
tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.11	0.11
tblVehicleEF	LDT1	0.15	0.15
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.29	0.29
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.03	0.03
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.16	0.16
tblVehicleEF	LDT1	0.29	0.29
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	0.18	0.18
tblVehicleEF	LDT1	1.13	1.14
tblVehicleEF	LDT1	2.97	2.98
tblVehicleEF	LDT1	315.67	322.04

tblVehicleEF	LDT1	69.57	70.97
tblVehicleEF	LDT1	0.12	0.12
tblVehicleEF	LDT1	0.17	0.17
tblVehicleEF	LDT1	2.6340e-003	2.6514e-003
tblVehicleEF	LDT1	3.2330e-003	3.2543e-003
tblVehicleEF	LDT1	2.4260e-003	2.4420e-003
tblVehicleEF	LDT1	2.9730e-003	2.9926e-003
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.31	0.31
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.02	0.03
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.20	0.20
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.31	0.31
tblVehicleEF	LDT1	0.09	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.23	0.23
tblVehicleEF	LDT1	0.22	0.22
tblVehicleEF	LDT2	0.65	0.65
tblVehicleEF	LDT2	1.31	1.31
tblVehicleEF	LDT2	352.67	359.80
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003

tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	0.72	0.72
tblVehicleEF	LDT2	1.09	1.09
tblVehicleEF	LDT2	372.26	379.78
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.06

tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.06	0.06
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.63	0.63
tblVehicleEF	LDT2	1.41	1.41
tblVehicleEF	LDT2	349.13	356.18
tblVehicleEF	LDT2	76.85	78.41
tblVehicleEF	LDT2	0.07	0.07
tblVehicleEF	LDT2	0.10	0.10
tblVehicleEF	LDT2	1.8240e-003	1.8360e-003
tblVehicleEF	LDT2	2.2870e-003	2.3021e-003
tblVehicleEF	LDT2	1.6780e-003	1.6891e-003
tblVehicleEF	LDT2	2.1030e-003	2.1169e-003
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.08	0.08
tblVehicleEF	LDT2	0.03	0.03
tblVehicleEF	LDT2	0.11	0.11
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	0.08	0.08

tblVehicleEF	LDT2	0.09	0.09
tblVehicleEF	MDV	0.94	0.94
tblVehicleEF	MDV	2.31	2.32
tblVehicleEF	MDV	472.46	482.00
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.20
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.17	0.17
tblVehicleEF	MDV	0.05	0.05
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.07	0.07
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.04	1.05
tblVehicleEF	MDV	1.92	1.92
tblVehicleEF	MDV	498.02	508.08
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.10	0.10

tblVehicleEF	MDV	0.19	0.19
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.15	0.15
tblVehicleEF	MDV	0.08	0.08
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.12	0.12
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.09	0.09
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.92	0.92
tblVehicleEF	MDV	2.49	2.49
tblVehicleEF	MDV	467.83	477.28
tblVehicleEF	MDV	101.95	104.01
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.21	0.21
tblVehicleEF	MDV	1.8890e-003	1.9015e-003
tblVehicleEF	MDV	2.3380e-003	2.3534e-003
tblVehicleEF	MDV	1.7410e-003	1.7525e-003
tblVehicleEF	MDV	2.1490e-003	2.1632e-003
tblVehicleEF	MDV	0.04	0.04

tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.18	0.18
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	0.16	0.16
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.03	0.03
tblVehicleEF	MDV	0.11	0.11
tblVehicleEF	MDV	0.20	0.20
tblVehicleTrips	CNW_TTP	0.00	90.00
tblVehicleTrips	CW_TTP	0.00	10.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	9.52
tblVehicleTrips	SU_TR	0.00	9.52
tblVehicleTrips	WD_TR	0.00	9.52
tblWater	OutdoorWaterUseRate	0.00	1,191,481.00

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					

2022	14.8354	41.3473	30.1914	0.0713	18.2141	1.6430	19.8277	9.9699	1.5119	11.4544	0.0000	7,011.6018	7,011.6018	2.0276	0.0000	7,062.2912
Maximum	**14.8354**	**41.3473**	**30.1914**	**0.0713**	**18.2141**	**1.6430**	**19.8277**	**9.9699**	**1.5119**	**11.4544**	**0.0000**	**7,011.6018**	**7,011.6018**	**2.0276**	**0.0000**	**7,062.2912**

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					
2022	14.8354	41.3473	30.1914	0.0713	6.4891	1.6430	8.1027	3.5249	1.5119	5.0094	0.0000	7,011.6018	7,011.6018	2.0276	0.0000	7,062.2912
Maximum	**14.8354**	**41.3473**	**30.1914**	**0.0713**	**6.4891**	**1.6430**	**8.1027**	**3.5249**	**1.5119**	**5.0094**	**0.0000**	**7,011.6018**	**7,011.6018**	**2.0276**	**0.0000**	**7,062.2912**

	ROG	NOx	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**	**64.37**	**0.00**	**59.13**	**64.64**	**0.00**	**56.27**	**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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1966	0.7645	2.3359	8.2500e-003	0.7824	6.5100e-003	0.7889	0.2091	6.0700e-003	0.2152		852.9979	852.9979	0.0432		854.0770
Offroad	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.6364**	**3.8359**	**6.8038**	**0.0145**	**0.7824**	**0.1582**	**0.9405**	**0.2091**	**0.1456**	**0.3547**		**1,456.1621**	**1,456.1621**	**0.2383**	**0.0000**	**1,462.1188**

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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.1966	0.7645	2.3359	8.2500e-003	0.7824	6.5100e-003	0.7889	0.2091	6.0700e-003	0.2152		852.9979	852.9979	0.0432		854.0770
Offroad	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.6364**	**3.8359**	**6.8038**	**0.0145**	**0.7824**	**0.1582**	**0.9405**	**0.2091**	**0.1456**	**0.3547**		**1,456.1621**	**1,456.1621**	**0.2383**	**0.0000**	**1,462.1188**

	ROG	NOx	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	Demolition	Demolition	1/3/2022	1/28/2022	5	20	
2	Site Preparation	Site Preparation	1/29/2022	2/11/2022	5	10	
3	Grading	Grading	2/12/2022	3/25/2022	5	30	
4	Building Construction	Building Construction	3/26/2022	4/22/2022	5	20	
5	Paving	Paving	4/23/2022	5/20/2022	5	20	
6	Architectural Coating	Architectural Coating	5/21/2022	6/17/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0.33

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 18,264; Non-Residential Outdoor: 6,088; Striped Parking Area: 888

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
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
Demolition	6	15.00	0.00	12.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	312.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	10.00	4.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	2.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1309	0.0000	0.1309	0.0198	0.0000	0.0198			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553		3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.1309**	**1.2427**	**1.3735**	**0.0198**	**1.1553**	**1.1751**		**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	4.3000e-003	0.1418	0.0397	4.5000e-004	0.0105	4.1000e-004	0.0109	2.8700e-003	3.9000e-004	3.2600e-003		49.2050	49.2050	4.5800e-003		49.3194
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	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**0.0601**	**0.1763**	**0.3867**	**1.5600e-003**	**0.1337**	**1.2400e-003**	**0.1349**	**0.0356**	**1.1600e-003**	**0.0367**		**159.6838**	**159.6838**	**7.6000e-003**		**159.8737**

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					0.0459	0.0000	0.0459	6.9600e-003	0.0000	6.9600e-003			0.0000			0.0000
Off-Road	2.6392	25.7194	20.5941	0.0388		1.2427	1.2427		1.1553	1.1553	0.0000	3,746.7812	3,746.7812	1.0524		3,773.0920
Total	**2.6392**	**25.7194**	**20.5941**	**0.0388**	**0.0459**	**1.2427**	**1.2886**	**6.9600e-003**	**1.1553**	**1.1622**	**0.0000**	**3,746.7812**	**3,746.7812**	**1.0524**		**3,773.0920**

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	4.3000e-003	0.1418	0.0397	4.5000e-004	0.0105	4.1000e-004	0.0109	2.8700e-003	3.9000e-004	3.2600e-003		49.2050	49.2050	4.5800e-003		49.3194
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	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**0.0601**	**0.1763**	**0.3867**	**1.5600e-003**	**0.1337**	**1.2400e-003**	**0.1349**	**0.0356**	**1.1600e-003**	**0.0367**		**159.6838**	**159.6838**	**7.6000e-003**		**159.8737**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

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

Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**18.0663**	**1.6126**	**19.6788**	**9.9307**	**1.4836**	**11.4143**		**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0669	0.0414	0.4164	1.3300e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		132.5746	132.5746	3.6200e-003		132.6651
Total	**0.0669**	**0.0414**	**0.4164**	**1.3300e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**132.5746**	**132.5746**	**3.6200e-003**		**132.6651**

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					6.3413	0.0000	6.3413	3.4857	0.0000	3.4857			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	**3.1701**	**33.0835**	**19.6978**	**0.0380**	**6.3413**	**1.6126**	**7.9538**	**3.4857**	**1.4836**	**4.9692**	**0.0000**	**3,686.0619**	**3,686.0619**	**1.1922**		**3,715.8655**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0669	0.0414	0.4164	1.3300e-003	0.1479	1.0000e-003	0.1489	0.0392	9.2000e-004	0.0401		132.5746	132.5746	3.6200e-003		132.6651
Total	**0.0669**	**0.0414**	**0.4164**	**1.3300e-003**	**0.1479**	**1.0000e-003**	**0.1489**	**0.0392**	**9.2000e-004**	**0.0401**		**132.5746**	**132.5746**	**3.6200e-003**		**132.6651**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.6851	0.0000	8.6851	3.5983	0.0000	3.5983			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041		6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**8.6851**	**1.6349**	**10.3199**	**3.5983**	**1.5041**	**5.1024**		**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0745	2.4578	0.6872	7.7600e-003	0.1817	7.0500e-003	0.1888	0.0498	6.7400e-003	0.0565		852.8861	852.8861	0.0793		854.8697
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	0.0743	0.0460	0.4627	1.4800e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		147.3051	147.3051	4.0200e-003		147.4057
Total	**0.1489**	**2.5038**	**1.1499**	**9.2400e-003**	**0.3460**	**8.1600e-003**	**0.3542**	**0.0934**	**7.7600e-003**	**0.1011**		**1,000.1912**	**1,000.1912**	**0.0834**		**1,002.2753**

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					3.0485	0.0000	3.0485	1.2630	0.0000	1.2630			0.0000			0.0000
Off-Road	3.6248	38.8435	29.0415	0.0621		1.6349	1.6349		1.5041	1.5041	0.0000	6,011.4105	6,011.4105	1.9442		6,060.0158
Total	**3.6248**	**38.8435**	**29.0415**	**0.0621**	**3.0485**	**1.6349**	**4.6833**	**1.2630**	**1.5041**	**2.7671**	**0.0000**	**6,011.4105**	**6,011.4105**	**1.9442**		**6,060.0158**

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	0.0745	2.4578	0.6872	7.7600e-003	0.1817	7.0500e-003	0.1888	0.0498	6.7400e-003	0.0565		852.8861	852.8861	0.0793		854.8697
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	0.0743	0.0460	0.4627	1.4800e-003	0.1643	1.1100e-003	0.1654	0.0436	1.0200e-003	0.0446		147.3051	147.3051	4.0200e-003		147.4057
Total	**0.1489**	**2.5038**	**1.1499**	**9.2400e-003**	**0.3460**	**8.1600e-003**	**0.3542**	**0.0934**	**7.7600e-003**	**0.1011**		**1,000.1912**	**1,000.1912**	**0.0834**		**1,002.2753**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

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

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0119	0.3836	0.1094	1.0400e-003	0.0271	7.7000e-004	0.0279	7.8000e-003	7.3000e-004	8.5300e-003		112.4411	112.4411	8.5600e-003		112.6551

Worker	0.0372	0.0230	0.2314	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		73.6526	73.6526	2.0100e-003		73.7028
Total	**0.0490**	**0.4066**	**0.3408**	**1.7800e-003**	**0.1092**	**1.3300e-003**	**0.1106**	**0.0296**	**1.2400e-003**	**0.0308**		**186.0936**	**186.0936**	**0.0106**		**186.3579**

Mitigated Construction On-Site

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

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0119	0.3836	0.1094	1.0400e-003	0.0271	7.7000e-004	0.0279	7.8000e-003	7.3000e-004	8.5300e-003		112.4411	112.4411	8.5600e-003		112.6551
Worker	0.0372	0.0230	0.2314	7.4000e-004	0.0822	5.6000e-004	0.0827	0.0218	5.1000e-004	0.0223		73.6526	73.6526	2.0100e-003		73.7028
Total	**0.0490**	**0.4066**	**0.3408**	**1.7800e-003**	**0.1092**	**1.3300e-003**	**0.1106**	**0.0296**	**1.2400e-003**	**0.0308**		**186.0936**	**186.0936**	**0.0106**		**186.3579**

3.6 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	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1461**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**0.0558**	**0.0345**	**0.3470**	**1.1100e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**110.4788**	**110.4788**	**3.0200e-003**		**110.5543**

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	0.0432					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.1461**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0558	0.0345	0.3470	1.1100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		110.4788	110.4788	3.0200e-003		110.5543
Total	**0.0558**	**0.0345**	**0.3470**	**1.1100e-003**	**0.1232**	**8.3000e-004**	**0.1241**	**0.0327**	**7.7000e-004**	**0.0335**		**110.4788**	**110.4788**	**3.0200e-003**		**110.5543**

3.7 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	14.6234					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	**14.8280**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

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	7.4300e-003	4.6000e-003	0.0463	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		14.7305	14.7305	4.0000e-004		14.7406
Total	**7.4300e-003**	**4.6000e-003**	**0.0463**	**1.5000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.3600e-003**	**1.0000e-004**	**4.4600e-003**		**14.7305**	**14.7305**	**4.0000e-004**		**14.7406**

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	14.6234					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	**14.8280**	**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**

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	7.4300e-003	4.6000e-003	0.0463	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		14.7305	14.7305	4.0000e-004		14.7406
Total	**7.4300e-003**	**4.6000e-003**	**0.0463**	**1.5000e-004**	**0.0164**	**1.1000e-004**	**0.0165**	**4.3600e-003**	**1.0000e-004**	**4.4600e-003**		**14.7305**	**14.7305**	**4.0000e-004**		**14.7406**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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

Category	lb/day										lb/day					
Mitigated	0.1966	0.7645	2.3359	8.2500e-003	0.7824	6.5100e-003	0.7889	0.2091	6.0700e-003	0.2152		852.9979	852.9979	0.0432		854.0770
Unmitigated	0.1966	0.7645	2.3359	8.2500e-003	0.7824	6.5100e-003	0.7889	0.2091	6.0700e-003	0.2152		852.9979	852.9979	0.0432		854.0770

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Parking Lot	0.00	0.00	0.00		
User Defined Commercial	134.80	134.80	134.80	368,994	368,994
Total	134.80	134.80	134.80	368,994	368,994

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
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
User Defined Commercial	9.50	7.30	7.30	10.00	0.00	90.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Parking Lot	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000
User Defined Commercial	0.602700	0.040134	0.179939	0.104242	0.014985	0.005435	0.016642	0.024350	0.001934	0.001888	0.005938	0.000757	0.001056

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	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
User Defined Commercial	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
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Unmitigated	0.1371	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119

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	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.1371**	**5.0000e-005**	**5.2200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

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	0.0801					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.0565					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	4.8000e-004	5.0000e-005	5.2200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005		0.0112	0.0112	3.0000e-005		0.0119
Total	**0.1371**	**5.0000e-005**	**5.2200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**		**0.0112**	**0.0112**	**3.0000e-005**		**0.0119**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
Tractors/Loaders/Backhoes	2	8.00	260	97	0.37	Diesel

UnMitigated/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
Equipment Type	lb/day										lb/day					
Tractors/Loaders/Backhoes	0.3027	3.0714	4.4626	6.2300e-003		0.1516	0.1516		0.1395	0.1395		603.1530	603.1530	0.1951		608.0298
Total	**0.3027**	**3.0714**	**4.4626**	**6.2300e-003**		**0.1516**	**0.1516**		**0.1395**	**0.1395**		**603.1530**	**603.1530**	**0.1951**		**608.0298**

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

SCREEN3 PRINTOUTS

10/03/19

21:14:01
  *** SCREEN3 MODEL RUN ***
  *** VERSION DATED 13043 ***

 Good Shepherd Catholic Cemetery Project

 SIMPLE TERRAIN INPUTS:
    SOURCE TYPE   =   AREA
    EMISSION RATE (G/(S-M**2)) =   0.102890E-06
    SOURCE HEIGHT (M)   =   3.1000
    LENGTH OF LARGER SIDE (M)   =   242.1500
    LENGTH OF SMALLER SIDE (M) =   242.1500
    RECEPTOR HEIGHT (M)   =   1.8000
    URBAN/RURAL OPTION   =   RURAL
 THE REGULATORY (DEFAULT) MIXING HEIGHT OPTION WAS SELECTED.
 THE REGULATORY (DEFAULT) ANEMOMETER HEIGHT OF 10.0 METERS WAS ENTERED.

    MODEL ESTIMATES DIRECTION TO MAX CONCENTRATION

 BUOY. FLUX =   0.000 M**4/S**3; MOM. FLUX =   0.000 M**4/S**2.

 *** STABILITY CLASS 6 ONLY ***
 *** ANEMOMETER HEIGHT WIND SPEED OF   1.00 M/S ONLY ***

 ****
 *** SCREEN AUTOMATED DISTANCES ***
 ****

 *** TERRAIN HEIGHT OF   0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

   DIST   CONC   U10M   USTK MIX HT   PLUME MAX DIR
    (M)   (UG/M**3)   STAB (M/S)   (M/S)   (M)   HT (M)   (DEG)
 ------- --------- ---- ----- ----- ------ ------ -------
      3.   2.520   6   1.0   1.0 10000.0   3.10   44.
    100.   3.953   6   1.0   1.0 10000.0   3.10   45.
    200.   4.862   6   1.0   1.0 10000.0   3.10   45.
    300.   4.036   6   1.0   1.0 10000.0   3.10   45.
    400.   3.374   6   1.0   1.0 10000.0   3.10   45.

 MAXIMUM 1-HR CONCENTRATION AT OR BEYOND   3. M:
    193.   4.882   6   1.0   1.0 10000.0   3.10   45.

 ****
 *** SCREEN DISCRETE DISTANCES ***
 ****

 *** TERRAIN HEIGHT OF   0. M ABOVE STACK BASE USED FOR FOLLOWING
DISTANCES ***

DIST (M)	CONC (UG/M**3)	STAB	U10M (M/S)	USTK (M/S)	MIX HT (M)	PLUME HT (M)	MAX DIR (DEG)
18.	2.746	6	1.0	1.0	10000.0	3.10	45.
55.	3.246	6	1.0	1.0	10000.0	3.10	45.

****
*** SUMMARY OF SCREEN MODEL RESULTS ***
****

CALCULATION PROCEDURE	MAX CONC (UG/M**3)	DIST TO MAX (M)	TERRAIN HT (M)
SIMPLE TERRAIN	4.882	193.	0.

****
** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
****

Good Shepherd Cemetery HRA Heath Risk Inputs and Calculations

0.375 *9 hrs/24 hrs*

*assume all PM10 exhaust is DPM

*assumption is that emissions are constant over the acres disturbed

	Emission Calcs
0.1494	CalEEMod PM10 Exhaust tons/yr
907184.7	grams/ton
3600	seconds/hour
24	hours/day
0.38	percent of day
260	days/yr
0.00603336	grams/second

	Area Calcs
14.49	Max area disturbed (acres)
4046.825	meters2/acre
58638.49425	meters2
242.1538648	meters x meters

Screen 3 assumptions
1.8m receptor height
3.1 m stack height
use discrete distances as well as array from 0 to 400 m
rural setting

	SCREEN3 Emission Rate	
1.02891E-07	grams/second*meter2	0.00000010289

0.3048

ft	m	SCREEN3 Distances
10	3.048	receptor 1
60	18.288	receptor 2
180	54.864	receptor 3
328	100	receptor 4
656	200	receptor 5
1,312	400	receptor 6
633.202	*193*	highest concentration

0.3048 **Sensitive Receptor**

Highest Concentration (633.20 ft)

	HRA Calcs					
4.9	SCREEN3 1-hour concentration (micrograms/meter3)					
0.1	1-hour --> annual conversion					
4.88E-01	SCREEN3 annual concentration (micrograms/meter3)					
5.86E-07	Calculated dose (mg/kg-day)					
0.64	Cancer risk (per million)					
0.04	Hazard Index	2.93E-06				
5	Chronic inhallation REL (micrograms/meter3)					
260	days of construction					
0.375	hours at school, daycare center, residences (% of day)					
50	Exposure frequency (EF)	days/year	*# of construction days*			
0.712328767	Exposure duration (ED)	Years	*# of days/365*			
25550	Averaging time (AT)	days		2-9 years	9-16 years	16-30 years
861	Daily breathing rate (DBR)	L/kg body weight	Daily Breath Rate - child	861	745	335
1	Inhalation absorption factor (A)	None				
1.00E-03	Micrograms to milligrams conversion	1 microgram				
1.00E-03	liters to cubic meters conversion	liters				
1.1	Cancer potency factor	mg/kg-day				
1.00E+06	risk per million people	None				

10 feet (3m)

	HRA Calcs
2.5	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
2.52E-01	SCREEN3 24-hour concentration (micrograms/meter3)
3.02E-07	Calculated dose (mg/kg-day)
0.33	Cancer risk (per million)
0.02	Hazard Index

60 feet (18.288m)

	HRA Calcs
2.7	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
2.75E-01	SCREEN3 24-hour concentration (micrograms/meter3)
3.30E-07	Calculated dose (mg/kg-day)
0.36	Cancer risk (per million)
0.02	Hazard Index

180 feet (54.864m)	
	HRA Calcs
7.7	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
7.66E-01	SCREEN3 24-hour concentration (micrograms/meter3)
9.19E-07	Calculated dose (mg/kg-day)
1.01	Cancer risk (per million)
0.06	Hazard Index

328 feet (100m)	
	HRA Calcs
4.0	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
3.95E-01	SCREEN3 24-hour concentration (micrograms/meter3)
4.74E-07	Calculated dose (mg/kg-day)
0.52	Cancer risk (per million)
0.03	Hazard Index

656 feet (200m)	
	HRA Calcs
4.9	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
4.86E-01	SCREEN3 24-hour concentration (micrograms/meter3)
5.84E-07	Calculated dose (mg/kg-day)
0.64	Cancer risk (per million)
0.04	Hazard Index

1,312 feet (400m)	
	HRA Calcs
3.4	SCREEN3 1-hour concentration (micrograms/meter3)
0.1	1-hour --> annual conversion
3.37E-01	SCREEN3 24-hour concentration (micrograms/meter3)
4.05E-07	Calculated dose (mg/kg-day)
0.45	Cancer risk (per million)
0.03	Hazard Index