



Air Quality and Greenhouse Gas Analysis

Church of the Woods

Irvine, California

April 2018



Prepared for:
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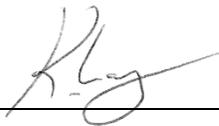
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Church of the Woods

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Prepared by:



April 26, 2018

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Acronyms and Abbreviations

°C	degree Celsius
°F	degree Fahrenheit
µg	microgram
AB	Assembly Bill
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
BACM	Best Available Control Measures
BAU	Business As Usual
CAAQS	California Ambient Air Quality Standards
Cal EPA	California Environmental Protection Agency
CCAA	California Clean Air Act
CEC	California Energy Commission
CO	Carbon Monoxide
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide equivalents
EO	Executive Order
FCAA	Federal Clean Air Act
GHG	Greenhouse Gas
GWP	Global Warming Potential
H ₂ S	Hydrogen Sulfide
HFC-134a	1,1,1, 2-tetrafluoroethane
HFC-152a	1,1-difluoroethane
HFC-23	fluoroform
IPCC	Intergovernmental Panel on Climate Change
kg	Kilogram
LST	Localized Significance Threshold
m ³	cubic meter
mg	milligram
MPO	Metropolitan Planning Organization
MT	Metric Tons
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
N ₂ O	Nitrous Oxide
NO	Nitric Oxide
NO ₂	Nitrogen Dioxide
NOA	Naturally Occurring Asbestos
NO _x	Oxides of Nitrogen
O ₃	Ozone
Pb	Lead

PFC	Perfluorocarbon
PM	Particulate Matter
PM ₁₀	particles of 10 micrometers and smaller
PM _{2.5}	particles of 2.5 micrometers and smaller
ppb	parts per billion
ppm	parts per million
ROG	Reactive Organic Gases
RPS	Renewable Portfolio Standard
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
sf	Square feet
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SO ₂	Sulfur Dioxide
SO _x	Oxides of Sulfur
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
U.S. EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
VRP	Visibly Reducing Particles
µg	Microgram

Executive Summary

An Air Quality and Greenhouse Gas Technical Analysis was completed for the Church of the Woods project to identify potential impacts to on-site and nearby sensitive land uses, as well as global climate change.

Regional emissions during project construction, calculated with the CalEEMod (Version 2016.3.1) model, would not exceed criteria pollutant thresholds established by the South Coast Air Quality Management District (SCAQMD). Compliance with SCAQMD Rules and Regulations during construction will reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions. The proposed project's long-term operational emissions are below the SCAQMD thresholds. Therefore, the proposed project's air quality impacts are less than significant.

Project-related traffic would not significantly affect local carbon monoxide (CO) levels under future year conditions, and the CO concentrations would be below the state and federal standards. No significant impact on local CO levels would occur.

The proposed project is located in San Bernardino County, which is not among the counties that are found to have serpentine and ultramafic rock in their soils. Therefore, the potential risk for naturally occurring asbestos (NOA) during project construction is considered low and potential impacts are less than significant.

The potential for the project to affect global climate change (GCC) is evaluated in this report. Short-term construction and long-term operational emissions of the principal greenhouse gases (GHGs), including carbon dioxide (CO₂) and methane (CH₄), are quantified, and their significance relative to the County's screening threshold is discussed. The total annual GHG emissions of 1,140 metric tons of carbon dioxide equivalents (MT of CO₂e) is less than the County's screening threshold of 3,000 MT of CO₂e per year. Therefore, the proposed project will be considered to be consistent with the San Bernardino County GHG Emissions Reduction Plan and determined to have a less than significant individual and cumulative impact for GHG emissions.

1 Project Description

The proposed site of the Church of the Woods is located on an approximately 27.1-acre property located in the Rimforest community, an unincorporated portion of San Bernardino County located in the San Bernardino Mountains. As shown in Figure 1-1, *Regional Map*, the Project site is located immediately north of State Route 18 (SR-18), approximately 0.5 mile south of State Route 189 (SR-189), and approximately 1.2 miles west of State Route 173 (SR-173). The City of San Bernardino is located approximately 4.5 miles to the south of the Project site. The Project site is located approximately 1.5 miles to the southwest of the Lake Arrowhead reservoir.

1.1 Local Setting and Location

As depicted on Figure 1-2, *Vicinity Map*, the Project site is located in the northeast portion of the unincorporated community of Rimforest in the western portion of unincorporated San Bernardino County, California. The Project site is located within the San Bernardino National Forest, a United States National Forest that encompasses about 823,816 acres of portions of the San Bernardino Mountains, San Jacinto Mountains, and Santa Rosa Mountains. Approximately 82 percent of the San Bernardino National Forest is federally-owned. The Project site is privately-owned and is located in the San Bernardino Mountains portion of the San Bernardino National Forest, situated immediately north of SR-18, east of Bear Springs Road, and west of Daley Canyon Road. The Project site lies within Section 29, Township 2 North, Range 3 West, Harrison Mountain Quadrangle. The Project site encompasses the Assessor's Parcel Number (APN) 336-101-06.

1.2 Surrounding Land Uses and Developments

Land uses surrounding the Project site are described below:

North: The Project site is bordered to the north by undeveloped mountainous terrain, with a Caltrans maintenance facility and single-family residences located approximately 0.5 mile and 0.2 mile farther north, respectively.

East: The Project site is bordered on the east by Daley Canyon Road. The Dogwood Campground (a public campground within the San Bernardino National Forest) and Rim of the World High School (within the Rim of the World Unified School District) are located to the east of Daley Canyon Road approximately 0.1 mile and 0.2 mile to the east of the Project site, respectively.

South: The Project site is bordered on the south by SR-18 with steeply sloped undeveloped mountainous terrain located beyond SR-18. Commercial and residential developments are located to the southwest of the Project site, south of SR-18.

West: The Project site is bordered on the west by single-family residences associated with the Rimforest community.

Figure 1-1. Regional Map

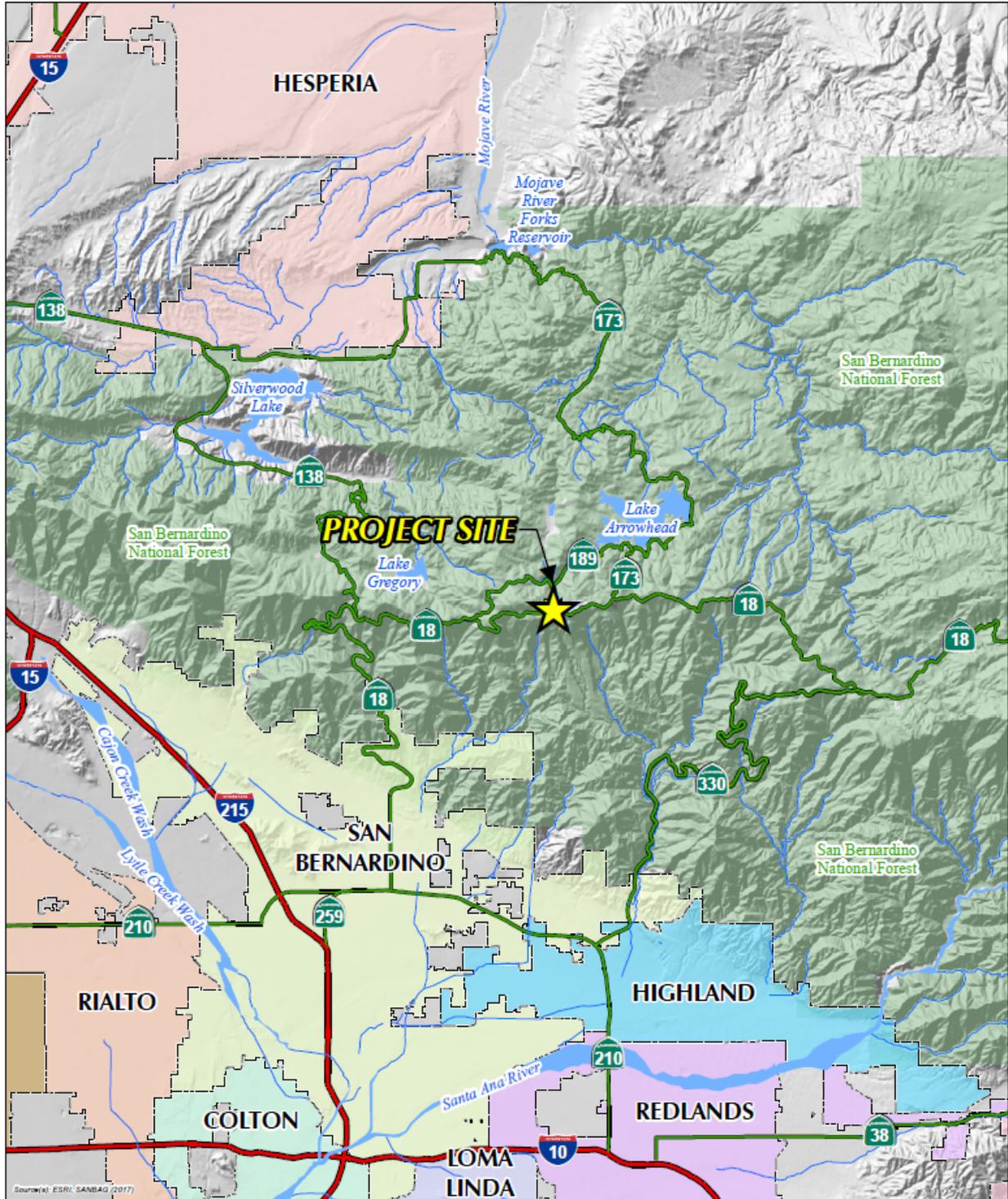
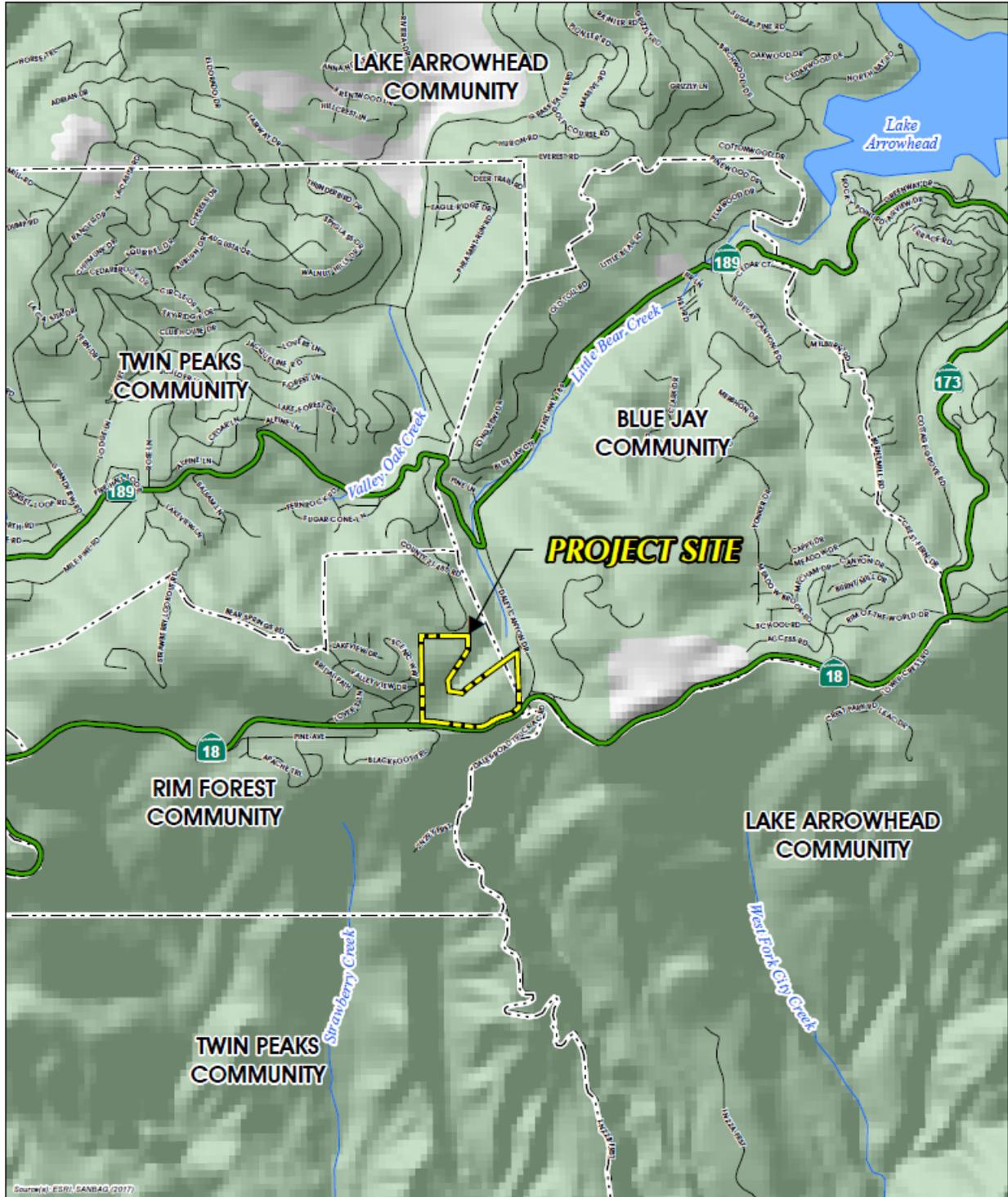


Figure 1-2. Vicinity Map



1.3 Existing Physical Site Conditions

The Project site is undeveloped and is characterized by gently rolling hills to steep mountain terrain that is largely covered by montane coniferous forest. The Project site includes a northeasterly trending valley that runs along the center of the Project site and falls to the northeast. Elevations across the Project site range from approximately 5,400 feet above mean sea level (amsl) at the northeast corner of the Project site to 5,740 feet amsl on the western edge of the Project site. A natural drainage course traverses the south-central portion of the Project site that is planned to be controlled in a pipe in the future as part of the County of San Bernardino Department of Public Works' Rimforest Storm Drain Project. In the existing condition, an 8-inch subsurface sewer line traverses the Project site parallel to the existing drainage course. An abandoned groundwater well also exists on the southwest portion of the Project site.

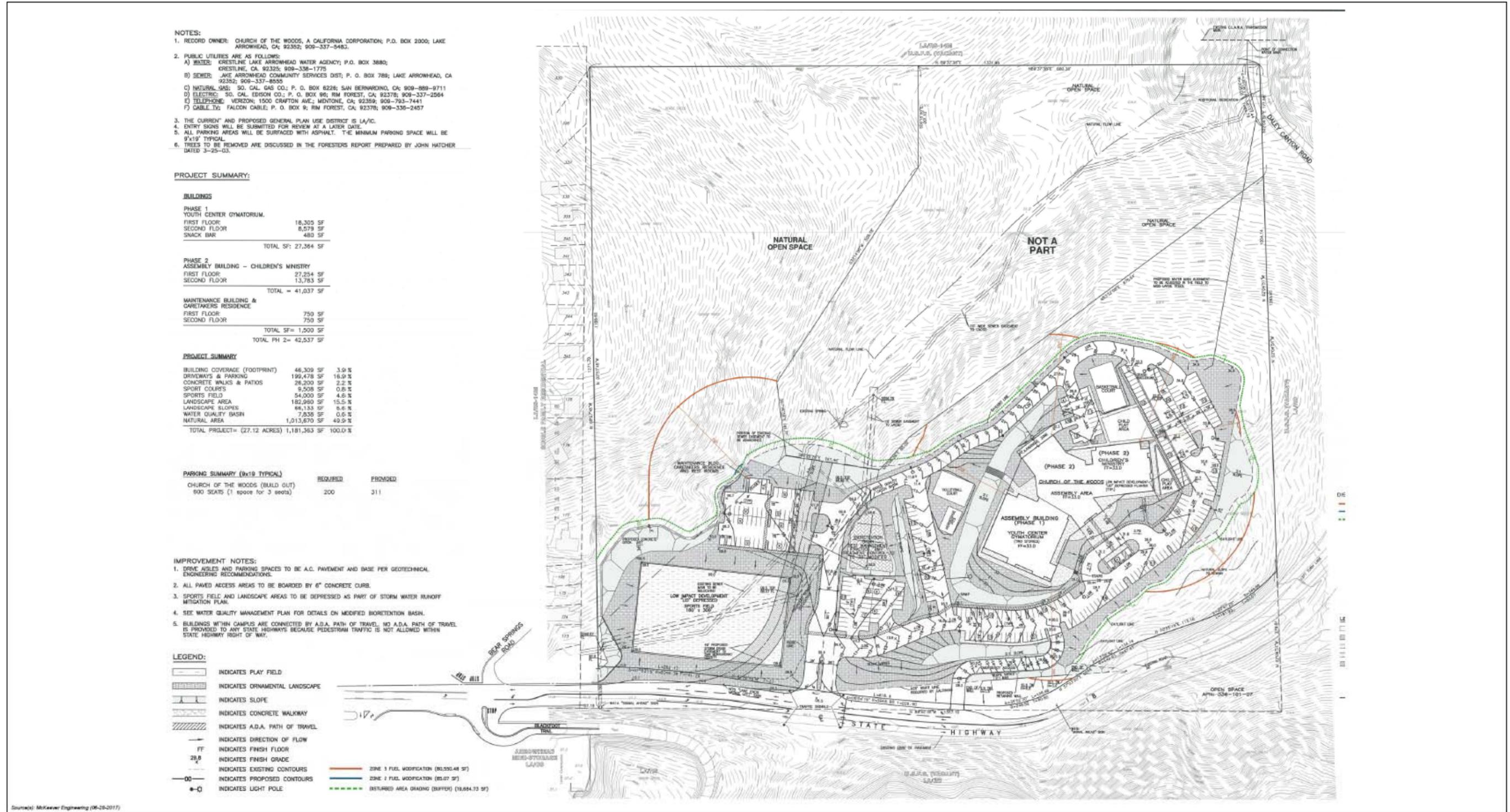
1.4 Overall Project Characteristics

The Project proposes to develop a portion of the Project site with the Church of the Woods campus development that would include a two-story building consisting of a 27,364 square foot (sf) gymnasium and a 41,037 sf assembly building/children's ministry on the southeast portion of the Project site. Additionally, a 1,500sf two-story building that would serve as a maintenance building, caretaker residence, and lavatory facilities would be developed on the southwest portion of the Project site. The Project would also include an ancillary 54,000 sf sports field, sports courts, and a 7,838 sf water quality bioretention basin. Additionally, associated on-site drainage facilities, utility connections, landscaped areas, pedestrian pathways, internal circulation roadways, driveways, and parking areas would be constructed. Approximately 588,937 sf of the Project site (approximately 50 percent) would remain as natural open space. Figure 1-3, *Proposed Site Plan*, shows the proposed on-site uses.

1.5 Circulation and Parking

The developed portion of the Project site would include several internal drive aisles and parking lot areas that would include a total of 311 parking stalls (200 required). Primary vehicular access onto the Project site would be provided by a driveway constructed in the central portion of the Project site's frontage along SR-18. The proposed project would widen the northern side of SR-18 to accommodate an eastbound left-turn lane and a westbound deceleration/acceleration lane. In addition, the Project would install a traffic signal at the proposed driveway (three-way intersection). A secondary emergency access (egress only) would occur at SR-18 approximately 325 feet to the east of the proposed access driveway. A total of 26,200 sf of pedestrian walkways and outdoor patios would be constructed on the Project site.

Figure 1-3. Proposed Site Plan





1.6 Open Space, Landscaped Areas, and Recreation Features

As depicted on Figure 1-3, *Proposed Site Plan*, the Project site would include a total of 182,960 sf of landscaped areas and 66,133 sf of landscaped manufactured slopes. Additionally, approximately 50 percent of the Project site (totaling 588,937 sf) would remain as natural open space.

The Project also proposes to develop a low-impact development (LID) 54,000 sf sports field on the southwest portion of the Project site. In addition, a total of 9,508 sf of sports courts are proposed at the Project site, which would include a horseshoe pit and volleyball court in the central portion of the church campus, and a basketball court and two child play areas on the east portion of the church campus.

1.7 Timing and Phasing of Construction

The Project is proposed to be constructed in two (2) phases, as follows:

- Phase 1 – Construction of a 27,364 sf assembly building housing a youth center/gymnasium, 54,000 sf sports field, sports courts, child play areas, internal circulation roadways, pedestrian walkways, landscaped areas, parking; and
- Phase 2 – Construction of a 41,037 sf addition to the assembly building that would include an assembly area and children’s ministry, as well as a 1,500 sf maintenance building/caretaker residence.

This air quality analysis evaluates the worst-case conditions associated with the construction phases occurring concurrently.

2 Regulatory Setting

2.1 Federal Clean Air Act

The Federal Clean Air Act (FCAA), as amended, is the primary federal law that governs air quality. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the concentration of pollutants in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS standards have been established for six transportation-related criteria pollutants that have been linked to potential health concerns: carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM) which is broken down for regulatory purposes into particles of 10 micrometers and smaller (PM₁₀) and particles of 2.5 micrometers and smaller (PM_{2.5}), and sulfur dioxide (SO₂). In addition, national standards exist for lead (Pb). The NAAQS standards are set at levels that protect public health with a margin of safety, and are subject to periodic review and revision. Toxic air contaminants (air toxics) are covered as well.

The FCAA requires U.S. EPA to designate areas as attainment, nonattainment, or maintenance (previously nonattainment and currently attainment) for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in Table 2-1. The U.S. EPA has classified the South Coast Air Basin (SCAB) as attainment/maintenance for CO, PM₁₀, and NO₂, and nonattainment for O₃, and PM_{2.5}.

2.2 California Clean Air Act

In California, the California Clean Air Act (CCAA) is administered by the ARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. The ARB, which became part of the California Environmental Protection Agency (Cal EPA) in 1991, is responsible for meeting the State requirements of the FCAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS).

The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. ARB regulates mobile air pollution sources, such as motor vehicles. ARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. ARB established passenger vehicle fuel specifications, which became effective in March 1996. ARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels.

The State standards are summarized in Table 2-1. The CCAA requires ARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the SCAB is designated as a nonattainment area for O₃, PM_{2.5}, and PM₁₀. In addition, the Los Angeles County portion of the SCAB is in nonattainment for lead.

2.3 California State Implementation Plan

The 1990 amendments to the FCAA set new deadlines for attainment based on the severity of the pollution problem and launched a comprehensive planning process for attaining the NAAQS. The promulgation of the national eight-hour ozone standard and the fine particulate matter (PM_{2.5}) standards in 1997 resulted in additional statewide air quality planning efforts. In response to new federal regulations, SIPs also began to address ways to improve visibility in national parks and wilderness areas. SIPs are not single documents, but rather a compilation of new and previously submitted plans, programs, district rules, State regulations, and federal controls. Many of California's SIPs



Table 2-1. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ⁸	Federal Standard ⁹	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Ozone (O ₃) ²	1 hour	0.09 ppm	---	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO _x) in the presence of sunlight and heat. Major sources include motor vehicles and other mobile sources, solvent evaporation, and industrial and other combustion processes.	Federal:
	8 hours	0.070 ppm	0.070 ppm ⁴ (4 th highest in 3 years)			Extreme Nonattainment (8-hour) State: Nonattainment (1-hour and 8-hour)
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.	Federal:
	8 hours	9.0 ppm ¹	9 ppm			Attainment/Maintenance
	8 hours (Lake Tahoe)	6 ppm	---			State: Attainment
Respirable Particulate Matter (PM ₁₀) ²	24 hours	50 µg/m ³	150 µg/m ³	Irritates eyes and respiratory tract. Decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many aerosol and solid compounds are part of PM ₁₀ .	Dust- and fume-producing industrial and agricultural operations; combustion smoke and vehicle exhaust; atmospheric chemical reactions; construction and other dust-producing activities; unpaved road dust and re-entrained paved road	Federal:
	Annual	20 µg/m ³	--- ² (expected number of days above standard)			Attainment/Maintenance

Table 2-1. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ⁸	Federal Standard ⁹	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
			< or equal to 1)		dust; natural sources.	State: Nonattainment
Fine Particulate Matter (PM _{2.5}) ²	24 hours	---	35 µg/m ³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the PM _{2.5} size range. Many toxic and other aerosol and solid compounds are part of PM _{2.5} .	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical (including photochemical) reactions involving other pollutants including NO _x , sulfur oxides (SO _x), ammonia, and ROG.	Federal:
	Annual	12 µg/m ³	12.0 µg/m ³			Nonattainment
	Secondary	---	15 µg/m ³			State:
	Standard (annual)		(98 th percentile over 3 years)			Nonattainment
Nitrogen Dioxide (NO ₂)	1 hour	0.18 ppm	100 ppb ⁶	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain. Part of the “NO _x ” group of ozone precursors.	Motor vehicles and other mobile sources; refineries; industrial operations.	Federal:
	Annual	0.030 ppm	0.053 ppm			Attainment/ Maintenance
						State: Attainment



Table 2-1. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ⁸	Federal Standard ⁹	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Sulfur Dioxide (SO ₂)	1 hour	0.25 ppm	75 ppb ⁷ (99 th percentile over 3 years)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.	Fuel combustion (especially coal and high-sulfur oil), chemical plants, sulfur recovery plants, metal processing; some natural sources like active volcanoes. Limited contribution possible from heavy-duty diesel vehicles if ultra-low sulfur fuel not used.	Federal: Attainment/ Unclassified State: Attainment/ Unclassified
	3 hours	0.04 ppm	0.5 ppm ⁹			
	24 hours	---	0.14 ppm 0.03 ppm			
	Annual Arithmetic Mean	---				
Lead (Pb) ³	Monthly	1.5 µg/m ³	---	Disturbs gastrointestinal system. Causes anemia, kidney disease, and neuromuscular and neurological dysfunction. Also a toxic air contaminant and water pollutant.	Lead-based industrial processes like battery production and smelters. Lead paint, leaded gasoline. Aerially deposited lead from gasoline may exist in soils along major roads.	Federal: Attainment (Los Angeles County region in nonattainment) State: Attainment
	Calendar Quarter	---	1.5 µg/m ³			
	Rolling 3-month average	---	0.15 µg/m ³¹⁰			
Sulfate	24 hours	25 µg/m ³	---	Premature mortality and respiratory effects. Contributes to acid rain. Some toxic air contaminants attach to sulfate aerosol particles.	Industrial processes, refineries and oil fields, mines, natural sources like volcanic areas, salt-covered dry lakes, and large sulfide rock areas.	Federal: N/A

Table 2-1. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ⁸	Federal Standard ⁹	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
						State: Attainment/ Unclassified
Hydrogen Sulfide (H ₂ S)	1 hour	0.03 ppm	---	Colorless, flammable, poisonous. Respiratory irritant. Neurological damage and premature death. Headache, nausea.	Industrial processes such as: refineries and oil fields, asphalt plants, livestock operations, sewage treatment plants, and mines. Some natural sources like volcanic areas and hot springs.	Federal: N/A State: Attainment/ Unclassified
Visibility Reducing Particles (VRP)	8 hours	Visibility of 10 miles or more (Tahoe: 30 miles) at relative humidity less than 70 percent	---	Reduces visibility. Produces haze. NOTE: not related to the Regional Haze program under the Federal Clean Air Act, which is oriented primarily toward visibility issues in National Parks and other "Class I" areas.	See particulate matter above.	Federal: N/A State: Attainment/ Unclassified



Table 2-1. Federal and State Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard ⁸	Federal Standard ⁹	Principal Health and Atmospheric Effects	Typical Sources	SCAB Attainment Status
Vinyl Chloride ³	24 hours	0.01 ppm	---	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes	Federal: N/A State: Attainment/ Unclassified

Source 1: California Air Resources Board (ARB). Website: www.arb.ca.gov/research/aaqs/aaqs2.pdf (May 4, 2016).

Source 2: ARB, Area Designations. Website: <http://www.arb.ca.gov/desig/desig.htm> (accessed July 2016).

¹ Rounding to an integer value is not allowed for the State 8-hour CO standard. Violation occurs at or above 9.05 ppm.

² Annual PM₁₀ NAAQS revoked October 2006; was 50 µg/m³. 24-hour PM_{2.5} NAAQS tightened October 2006; was 65 µg/m³. Annual PM_{2.5} NAAQS tightened from 15 µg/m³ to 12 µg/m³ December 2012, and secondary standard set at 15 µg/m³.

³ The ARB has identified vinyl chloride and the particulate matter fraction of diesel exhaust as toxic air contaminants. Diesel exhaust particulate matter is part of PM₁₀ and, in larger proportion, PM_{2.5}. Both the ARB and the EPA have identified lead and various organic compounds that are precursors to ozone and PM_{2.5} as toxic air contaminants. There are no exposure criteria for substantial health effects due to toxic air contaminants, and control requirements may apply at ambient concentrations below any criteria levels specified above for these pollutants or the general categories of pollutants to which they belong.

⁴ Prior to June 2005, the 1-hour NAAQS was 0.12 ppm. Emission budgets for 1-hour ozone are still in use in some areas where 8-hour ozone emission budgets have not been developed, such as the San Francisco Bay Area. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

⁵ The 0.08 ppm 1997 ozone standard is revoked FOR CONFORMITY PURPOSES ONLY when area designations for the 2008 0.75 ppm standard become effective for conformity use (July 20, 2013). Conformity requirements apply for all NAAQS, including revoked NAAQS, until emission budgets for newer NAAQS are found adequate, SIP amendments for the newer NAAQS are approved with an emission budget, EPA specifically revokes conformity requirements for an older standard, or the area becomes attainment/unclassified. SIP-approved emission budgets remain in force indefinitely unless explicitly replaced or eliminated by a subsequent approved SIP amendment. During the “Interim” period prior to availability of emission budgets, conformity tests may include some combination of build vs. no build, build vs. baseline, or compliance with prior emission budgets for the same pollutant.

⁶ Final 1-hour NO₂ NAAQS published in the Federal Register on February 9, 2010, effective March 9, 2010. Initial area designation for California (2012) was attainment/unclassifiable throughout. Project-level hot-spot analysis requirements do not currently exist. Near-road monitoring starting in 2013 may cause redesignation to nonattainment in some areas after 2016.

⁷ The EPA finalized a 1-hour SO₂ standard of 75 ppb in June 2010. Nonattainment areas have not yet been designated as of September 2012.

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- ⁸ California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, 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.
- ⁹ National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
- ¹⁰ Lead NAAQS are not considered in Transportation Conformity analysis.

rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes ARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to ARB for review and approval. ARB then forwards SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items which are included in the California SIP.

2.4 South Coast Air Quality Management District

The 1977 Lewis Air Quality Management Act created the South Coast Air Quality Management District (SCAQMD) to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California.

Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

2.4.1 Air Quality Management Plan

All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates. The Air Quality Management Plan (AQMP) is the SCAQMD plan for improving regional air quality. It addresses CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the SCAB must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not increase the number or severity of existing air quality violations.

The 2016 Air Quality Management Plan was adopted by the SCAQMD Governing Board on March 3, 2017. It incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2016 AQMP includes the integrated strategies and measures needed to meet the NAAQS.

2.5 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 has led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF₆), HFC-23 (fluoroform), HFC-134a (1,1,1,2-tetrafluoroethane), and HFC-152a (difluoroethane).

In the U.S., the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (including passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest source of GHG-emitting sources. The dominant GHG emitted is CO₂, mostly from fossil fuel combustion.

There are typically two terms used when discussing the impacts of climate change: "Greenhouse Gas Mitigation" and "Adaptation." "Greenhouse Gas Mitigation" is a term for reducing GHG emissions to reduce or "mitigate" the impacts of climate change. "Adaptation" refers to the effort of planning for and adapting to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels).

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improving the transportation system and operational efficiencies, 2) reducing travel activity, 3) transitioning to lower GHG-emitting fuels, and 4) improving vehicle technologies/efficiency. To be most effective, all four strategies should be pursued cooperatively.

Greenhouse gases vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of "CO₂ equivalents" (CO₂e). Table 2-2 shows the GWPs for each type of GHG. For example, SF₆ is 23,900 times more potent at contributing to global warming than CO₂.

Table 2-2. Global Warming Potential of Greenhouse Gases

Gas	Atmospheric Lifetime (Years)	Global Warming Potential (100-year Time Horizon)
Carbon Dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12	21
Nitrous Oxide (N ₂ O)	114	310
HFC-23	270	11,700
HFC-134a	14	1,300
HFC-152a	1.4	140
PFC: Tetrafluoromethane (CF ₄)	50,000	6,500
PFC: Hexafluoromethane (C ₂ F ₆)	10,000	9,200
Sulfur Hexafluoride (SF ₆)	3,200	23,900

Source: Intergovernmental Panel on Climate Change, 2007.

2.5.1 State Regulations

2.5.1.1 Executive Order S-3-05 – Statewide GHG Emission Targets

On June 1, 2005, the Governor issued Executive Order (EO) S-3-05 which set the following GHG emission reduction targets:

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

This EO also directed the secretary of the Cal EPA to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming. The first such Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years thereafter.

2.5.1.2 California Global Warming Solutions Act (Assembly Bill 32)

In 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006, also known as Assembly Bill (AB) 32. AB 32 focuses on reducing GHG

emissions in California. GHGs, as defined under AB 32, include CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. ARB is the state agency charged with monitoring and regulating sources of emissions of GHGs that cause global warming in order to reduce emissions of GHGs. AB 32 also requires that by January 1, 2008, the ARB must determine what the statewide GHG emissions level was in 1990, and it must approve a statewide GHG emissions limit so it may be applied to the 2020 benchmark. ARB approved a 1990 GHG emissions level of 427 million MT of CO₂e, on December 6, 2007 in its Staff Report. Therefore, in 2020, emissions in California are required to be at or below 427 million MT of CO₂e.

Under the “business as usual or (BAU)” scenario established in 2008, statewide emissions were increasing at a rate of approximately 1 percent per year as noted below. It was estimated that the 2020 estimated BAU of 596 million MT of CO₂e would have required a 28 percent reduction to reach the 1990 level of 427 million MT of CO₂e.

2.5.1.3 Executive Order B-30-15

On April 20, 2015, Governor Edmund G. Brown Jr. signed Executive Order B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor’s executive order aligns California’s GHG reduction targets with those of leading international governments such as the 28-nation European Union which adopted the same target in October 2014.

California is on track to meet or exceed its legislated target of reducing GHG emissions to 1990 levels by 2020, as established in the California Global Warming Solutions Act of 2006 (AB 32, summarized above). California’s new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal of reducing emissions 80 percent below 1990 levels by 2050. This is in line with the scientifically established levels needed in the U.S. to limit global warming below 2 °C, the warming threshold at which there will likely be major climate disruptions such as super droughts and rising sea levels. The targets stated in Executive Order B-30-15 have not been adopted by the state legislature.

2.5.1.4 Senate Bill 32

Senate Bill 32 (SB 32) was signed into law on September 8, 2016 and expands upon AB 32 to reduce greenhouse gas (GHG) emissions. SB-32 sets into law the mandated GHG emissions target of 40 percent below 1990 levels by 2030 written into Executive Order B-30-15.

2.5.1.5 Climate Change Scoping Plan

The Scoping Plan released by ARB in 2008 outlined the State’s strategy to achieve the AB 32 goals. This Scoping Plan, developed by ARB in coordination with the Climate Action Team (CAT), proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify our energy sources, save energy, create new jobs, and enhance public health. It was adopted by ARB at its meeting in December 2008. According to the Scoping Plan,

the 2020 target of 427 million MT of CO₂e requires the reduction of 169 million MT of CO₂e, or approximately 28.3 percent, from the State's projected 2020 BAU emissions level of 596 million MT of CO₂e.

However, in August 2011, the Scoping Plan was re-approved by the Board and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. This document includes expanded analysis of Project alternatives, as well as updates the 2020 emission projections in light of the current economic forecasts. Considering the updated 2020 BAU estimate of 507 million MT of CO₂e, only a 16 percent reduction below the estimated new BAU levels would be necessary to return to 1990 levels by 2020. The 2011 Scoping Plan expands the list of nine Early Action Measures into a list of 39 Recommended Actions.

However, in May 2014, ARB developed, in collaboration with the CAT, the First Update to California's Climate Change Scoping Plan (Update), which shows that California is on track to meet the near-term 2020 greenhouse gas limit and is well positioned to maintain and continue reductions beyond 2020 as required by AB32. In accordance with the United Nations Framework Convention on Climate Change (UNFCCC), ARB is beginning to transition to the use of the AR4's 100-year GWPs in its climate change programs. ARB has recalculated the 1990 GHG emissions level with the AR4 GWPs to be 431 million MT of CO₂e, therefore the 2020 GHG emissions limit established in response to AB 32 is now slightly higher than the 427 million MT of CO₂e in the initial Scoping Plan.

In 2016, the Legislature passed SB 32, which codifies a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. ARB is moving forward with a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. According to the 2017 Scoping Plan, the 2030 target of 260 million MT of CO₂e requires the reduction of 129 million MT of CO₂e, or approximately 33.2 percent, from the State's projected 2030 BAU emissions level of 389 million MT of CO₂e.

2.5.1.6 AB 1493 – Light-duty Vehicle GHG Emissions Standards

AB 1493 (Pavley) requires the ARB to develop and adopt regulations that achieve “the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the State.”

On September 24, 2009, ARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles. In January 2012, ARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars.

2.5.1.7 Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the ARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. The ARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. On December 29, 2011, District Judge Lawrence O'Neill in the Eastern District of California issued a preliminary injunction blocking the ARB from implementing LCFS for the remainder of the *Rocky Mountain Farmers Union* litigation. The injunction was lifted in April 2012 so that ARB can continue enforcing the LCFS pending ARB's appeal of the federal district court ruling.

2.5.1.8 Renewable Portfolio Standard

The Renewable Portfolio Standard (RPS) promotes diversification of the state's electricity supply and decreased reliance on fossil fuel energy sources. Originally adopted in 2002 with a goal to achieve a 20 percent renewable energy mix by 2020 (referred to as the "initial RPS"), the goals have been accelerated and increased by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. In April 2011, the Governor signed SB 2 (1X) codifying California's 33 percent RPS goal; Section 399.19 requires the California Public Utilities Commission (CPUC), in consultation with the California Energy Commission (CEC), to report to the Legislature on the progress and status of RPS procurement and other benchmarks. The purpose of the RPS upon full implementation is to provide 33 percent of the state's electricity needs through renewable energy sources. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

The RPS is included in ARB's Scoping Plan list of GHG reduction measures to reduce energy sector emissions. It is designed to accelerate the transformation of the electricity sector through such means as investment in the energy transmission infrastructure and systems to allow integration of large quantities of intermittent wind and solar generation. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. In 2008, as part of the Scoping Plan original estimates, ARB estimated that full achievement of the RPS would decrease statewide GHG emissions by 21.3 million MT of CO₂e. In 2010, ARB revised this number upwards to 24.0 million MT of CO₂e.

2.5.1.9 SB 375 – Regional Emissions Targets

SB 375 was signed into law in September 2008 and requires ARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan. The purpose of SB 375 is to align regional transportation planning efforts, regional GHG reduction targets, and fair-share housing allocations under state housing law. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to address GHG reduction targets from cars and light-duty trucks in the context of that MPO's RTP.

2.5.1.10 Senate Bill 97 – CEQA GHG Amendments

Senate Bill 97 acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. The California Natural Resources Agency adopted amendments to the CEQA Guidelines to address GHG emissions, consistent with the Legislature’s directive in Public Resources Code section 21083.05.

2.5.1.11 State of California Building Energy Efficiency Standards (Title 24, Part 6)

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (24 California Code of Regulations (CCR) Part 6) were first established in 1978 in response to a legislative mandate to reduce California’s energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The premise for the standards is that energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results in GHG emissions.

The CEC adopted new 2013 Building Energy Efficiency Standards effective July 1, 2014. The 2013 Standards improve upon the 2008 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2008 standards were updated for a number of reasons, including:

- To respond to Assembly Bill 32, the Global Warming Solutions Act of 2006;
- To pursue California energy policy that will establish energy efficiency as the resource of first choice for meeting California’s energy needs;
- To act on the findings of California’s Integrated Energy Policy Report that indicates standards in general (as opposed to incentives or other mechanisms) are the most cost- effective means to achieve energy efficiency;
- To meet California’s commitment to include aggressive energy efficiency measures in updates of state building codes; and
- To meet California’s commitment to improve the energy efficiency of nonresidential buildings through aggressive standards.

2.5.1.12 Senate Bill 350

Senate Bill 350 was signed into law in September 2015. SB 350 establishes tiered increases to the RPS of 40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

2.5.1.13 Short-Lived Climate Pollutant Reduction Strategy

This final proposed Short-Lived Climate Pollutant (SLCP) Reduction Strategy (SLCP Strategy) was developed pursuant to SB 605 and SB 1383 and lays out a range of options to accelerate SLCP emission reductions in California, including regulations, incentives, and other market-supporting activities. The SLCP Strategy will inform and be integrated into the upcoming 2017 Climate Change Scoping Plan Update, which will

incorporate input from a wide range of stakeholders to develop a comprehensive plan for achieving the SB 32 statewide 2030 GHG limit of 40 percent below 1990 levels. The process for updating the Scoping Plan began in fall 2015 and is scheduled for completion in 2017.

Achievable Goals through implementation of the SLCP Strategy:

- The following reductions by 2030 (from 2013 levels):
 - 50 percent for anthropogenic Black Carbon;
 - 40 percent for methane; and
 - 40 percent for hydrofluorocarbons, or HFCs.
- Convert manure and organic wastes into valuable energy and soil amendment products;
- Reduce disposal of edible foods by diverting them to food banks and other outlets;
- Reduce harmful emissions from residential wood stoves; and
- Accelerate the reduction of the fastest growing source of GHG emissions by building on global HFC phasedown agreements.

2.5.1.14 California Green Building Code

The California Green Building Standards Code (2016), referred to as CalGreen, took effect on January 1, 2017, and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals.

3 Affected Environment

3.1 Climate

The proposed project is located in San Bernardino County, an area within the SCAB, which includes Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality regulation in the SCAB is administered by SCAQMD, a regional agency created for the SCAB.

The SCAB climate is determined by its terrain and geographical location. The SCAB is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern boundary, and high mountains surround the rest of the SCAB. The region lies in the semi permanent high pressure zone of the eastern Pacific. The resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the SCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic

influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The annual average maximum temperature recorded at the Lake Arrowhead Station, the closest climatological station to the Project site, is 63.1°F and the annual average minimum is 40.4°F. January is typically the coldest month in this area of the SCAB.

The majority of annual rainfall in the SCAB occurs between November and April. Summer rainfall is minimal and generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern part of the SCAB along the coastal side of the mountains. Average rainfall measured at the Lake Arrowhead Station varies from 8.58 inches in January to 0.76 inches or less between June and September, with an average annual total of 40.04 inches.

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed from midafternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by midmorning.

Inversion layers are essential in determining O₃ formation. O₃ and its precursors will mix and react to produce higher concentrations under an inversion. The inversion will also simultaneously trap and hold directly emitted pollutants such as CO. PM₁₀ is both directly emitted and created indirectly in the atmosphere as a result of chemical reactions. Concentration levels are directly related to inversion layers due to the limitation of mixing space.

Surface or radiation inversions are formed when the ground surface becomes cooler than the air above it during the night. The earth's surface goes through a radiative process on clear nights, when heat energy is transferred from the ground to a cooler night sky. As the earth's surface cools during the evening hours, the air directly above it also cools, while air higher up remains relatively warm. The inversion is destroyed when heat from the sun warms the ground, which in turn heats the lower layers of air; this heating stimulates the ground level air to float up through the inversion layer.

The combination of stagnant wind conditions and low inversions produces the greatest concentration of pollutants. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore and east into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are from CO and oxides of nitrogen (NO_x) because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog.

This section provides an overview of state and local regulations related to noise issues applicable to the proposed project.

3.2 Monitored Air Quality Pollutants

SCAQMD monitors air quality conditions at 37 locations throughout the SCAB. The air quality monitoring station closest to the site is the San Bernardino station (located approximately 10 miles south of the project site), and its air quality trends are representative of the ambient air quality in the project area. As the San Bernardino Station does not monitor SO₂ concentrations, the data from the Fontana Station (located approximately 15 miles southwest of the project site) was used for this analysis. Table 3-1 shows pollutant levels, the State and federal standards, and the number of exceedances recorded at this station from 2014 to 2016.

3.2.1 Carbon Monoxide

CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions; primarily wind speed, topography, and atmospheric stability. As identified in Table 3-1, the CO concentrations in the Project area have not exceeded the federal or State standards in the past three years.

3.2.2 Ozone

O₃ is a colorless gas that is formed in the atmosphere when ROG, which includes VOC, and NO_x react in the presence of ultraviolet sunlight. O₃ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and NO_x, the components of O₃, are automobile exhaust and industrial sources. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposure (lasting for a few hours) to O₃ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. As identified in Table 3-1, the 1-hour and 8-hour O₃ standards were exceeded in each year.

3.2.3 Nitrogen Dioxide

NO₂, like O₃, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to O₃ formation. NO₂ also contributes to the formation of PM₁₀. High concentrations of NO₂ can result in a brownish-red cast to the atmosphere with reduced visibility and can cause breathing difficulties. As identified in Table 3-1, the NO₂ standards were not exceeded at the San Bernardino Station.



Table 3-1. Ambient Air Quality Monitoring Concentrations

Pollutant	Pollutant Concentration and Standard	Maximum Concentration		
		2014	2015	2016
Carbon Monoxide	Maximum 1-hour Concentration (ppm)	4.1	2.3	2.2
	Days> 20 ppm (State 1-hr standard)	0	0	0
	Days> 35 ppm (federal 1-hr standard)	0	0	0
	Maximum 8-hour Concentration (ppm)	2.4	1.8	1.7
	Days> 9 ppm (State 8-hr standard)	0	0	0
	Days> 9 ppm (federal 8-hr standard)	0	0	0
Ozone	Maximum 1-hour Concentration (ppm)	0.121	0.134	0.158
	Days> 0.09 ppm (State 1-hr standard)	38	52	70
	Maximum 8-hour Concentration (ppm)	0.099	0.117	0.118
	Days> 0.070 ppm (State 8-hr standard)	75	78	106
	Days> 0.070 ppm (federal 8-hr standard)	75	78	106
	Nitrogen Dioxide	Maximum 1-hour Concentration (ppm)	0.073	0.071
Days> 0.18 ppm (State 1-hr standard)		0	0	0
Days> 0.10 ppm (federal 1-hr standard)		0	0	0
Annual Arithmetic Mean (ppm)		0.018	0.015	0.016
Exceed 0.030 ppm? (State Annual Standard)		No	No	No
Exceed 0.053 ppm? (federal Annual Standard)		No	No	No
Sulfur Dioxide	Maximum 1-hour Concentration (ppb)	4.0	4.0	6.3
	Days> 250 ppb (State 1-hr standard)	0	0	0
	Days> 75 ppb (federal 1-hr standard)	0	0	0
	Maximum 24-hour Concentration (ppb)	NA	NA	NA
	Days> 40 ppb (State 24-hr standard)	NA	NA	NA
	Coarse Particulate Matter (PM ₁₀)	Maximum 24-hour Concentration (µg/m ³)	157.2	187.0
Days> 50 µg/m ³ (State 24-hr standard)		2	3	4
Days> 150 µg/m ³ (federal 24-hr standard)		1	1	1
Annual Arithmetic Mean (µg/m ³)		32.7	31.7	NA
Exceed 20 µg/m ³ ? (State Annual Standard)		Yes	Yes	NA
Fine Particulate Matter (PM _{2.5})		Maximum 24-hour Concentration (µg/m ³)	32.2	53.5
	Days> 35 µg/m ³ (federal 24-hr standard)	0	2	1
	Annual Arithmetic Mean (µg/m ³)	NA	10.7	11.1
	Exceed 12 µg/m ³ ? (State Annual Standard)	NA	No	No
	Exceed 12 µg/m ³ ? (federal Annual Standard)	NA	No	No

3.2.4 Oxides of Sulfur

SO₂ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of SO₂ are coal and oil used in power plants and industries. Generally, the highest levels of SO₂ are found near large industrial complexes. In recent years, SO₂ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. As identified in Table 3-1, the SO₂ standards were not exceeded at the Fontana Station.

3.2.5 Coarse Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. Inhalable particulate matter, or PM₁₀, is about 1/7 the thickness of a human hair.

Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. When inhaled, PM₁₀ particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. As identified in Table 3-1, the State and federal PM₁₀ standards were exceeded in each of the past 3 years.

3.2.6 Fine Particulate Matter

Fine particulate matter, or PM_{2.5}, is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as SO₂, NO_x, and VOC. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility. As identified in Table 3-1, the State and federal PM_{2.5} standards were exceeded in each of the past 3 years.

3.2.7 Volatile Organic Compounds or Reactive Organic Gases

VOCs are carbon-containing compounds that evaporate into the air. VOCs contribute to the formation of smog and/or may be toxic. VOCs often have an odor, and examples include gasoline, alcohol, and the solvents used in paints. The SCAQMD does not directly monitor VOCs. There are no specific State or federal VOC thresholds, as they are regulated by individual air districts as O₃ precursors.

3.3 Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics, particulate matter, and CO are of particular concern. Land uses considered sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The majority of the sensitive receptors within or adjacent to the Project site are residential uses.

4 Methods and Significance Thresholds

The air quality analysis contained herein evaluates the proposed project's short-term construction and long-term operation emissions using the following methodologies and significance thresholds.

4.1 Methods

4.1.1 Criteria Air Pollutants

Emissions of criteria air pollutants were estimated using existing conditions information, Project construction details, and Project operations information, as well as a combination of emission factors from the following sources.

- CalEEMod (Version 2016.3.1) emission model for estimating exhaust emissions from off-road construction equipment and on-road motor vehicles
- CalEEMod (Version 2016.3.1) emission model for calculating the long-term mobile, energy, and area source emissions

4.1.2 Quantification of GHGs

For the purposes of determining whether or not GHG emissions from affected projects are adverse, SCAQMD specifies that Project emissions must include direct, indirect, and, to the extent information is available, life cycle emissions during construction and operation. Based on this direction, construction emissions were amortized over the life of the project (defined as 30 years) added to the operational emissions, and compared to the applicable GHG significance thresholds.

4.2 CEQA Significance Criteria

For the purposes of this air quality analysis, the Project would have an adverse effect on air quality or global climate change if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations;
- Generate greenhouse gas emissions, either directly or indirectly, that may have an adverse effect on the environment;
- Conflict with applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases; or
- Create objectionable odors affecting a substantial number of people; or
- 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 (including releasing emissions which exceed quantitative thresholds for O₃ precursors).

4.3 SCAQMD Guidelines

Specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD's *CEQA Air Quality Handbook*. Table 4-1 lists the daily thresholds for construction and operational emissions that have been established by the SCAQMD and will be used in the analysis of air quality impacts for the proposed project to determine significance.

Pollutant	Construction (pounds/day)	Operation (pounds/day)
Oxides of Nitrogen (NO _x)	100	55
Volatile Organic Compounds (VOC)	75	55
PM ₁₀	150	150
PM _{2.5}	55	55
Oxides of Sulfur (SO _x)	150	150
CO	550	550

Source: SCAQMD CEQA Air Quality Handbook, <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>, accessed April 2018.

4.3.1 Localized Significance Thresholds

SCAQMD has developed localized significance threshold (LST) methodology and mass rate look-up tables by source receptor area (SRA) that can be used by public agencies to determine whether or not a project may generate significant adverse localized air quality impacts. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area.

LSTs are derived based on the location of the activity (i.e., the SRA); the emission rates of NO_x, CO, PM_{2.5}, and PM₁₀; the size of the Project site, and the distance to the nearest exposed individual. For this project, the appropriate SRA for the LST is the West San Bernardino Valley area (Area 37). The nearest sensitive receptors are to the west of the Project site boundary approximately 90 feet (27 meters) from the property line. Table 4-2 lists the LST emission rates for a 5 acre site located within 25 meters of a sensitive use.

Pollutant	Construction (pounds/day)	Operation (pounds/day)
Oxides of Nitrogen (NO _x)	270	270
PM ₁₀	14	4
PM _{2.5}	8	2
CO	1,746	1,746

Source: SCAQMD, 2018.

4.3.2 Local Carbon Monoxide Concentrations

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and federal CO standards. If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or federal standard, project emissions are considered significant if they increase 1-hour CO concentrations by 1.0 ppm or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

4.3.3 Greenhouse Gas Emission Threshold

The SCAQMD’s Interim Thresholds for commercial, residential, mixed use and industrial development projects are as follows:

- Industrial Projects – 10,000 MT of carbon monoxide equivalent (CO₂e) per year
- Residential, Commercial, and Mixed Use Projects (including parks, warehouses, etc.) 3,000 MT CO₂e per year

The Project is a church use that does not fit into the industrial, commercial or residential project categories. Thus, for purposes of this analysis, both direct and indirect GHG emissions from the proposed project are discussed in the context of the 3,000 MT threshold levels.

4.4 County of San Bernardino

4.4.1 Greenhouse Gas Emissions

In its Greenhouse Gas Emissions – Development Review Processes (March 2015) the County has established the following development review process, including the use of performance standards, for assessing and mitigating GHG emissions:

a) County Performance Standards

All development projects, including those otherwise determined to be exempt from CEQA will be subject to applicable Development Code provisions, including the GHG performance standards, and state requirements, such as the California Building Code requirements for energy efficiency. With the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MT of CO₂e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions.

b) Regulatory Agency Performance Standards

When, and if, South Coast Air Quality Management District or Mojave Basin Air Quality Management District adopts standards, the County will consider such guidance and incorporate all applicable standards.

c) Projects Using Screening Table

For projects exceeding 3,000 MTCO₂e per year of GHG emissions, the County will use Screening Tables as a tool to assist with calculating GHG reduction measures and the determination of a significance finding. Projects that garner a 100 or greater points would not require quantification of project specific GHG emissions. The point system was devised to ensure to Project compliance with the reduction measures in the GHG Plan such that the GHG emissions from new development, when considered together with those existing development, will allow the County to meet its 2020 target and support reductions in GHG emissions beyond 2020. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions.

d) Projects Not Using Screening Tables

Projects exceeding MTCO₂e per year of GHG emissions that do not use the Screening Tables, will be required to quantify project-specific GHG emissions and achieve the equivalent level of GHG emissions efficiency as a 100-point project. Consistent with the CEQA Guidelines, such projects are consistent with the Plan and therefore will be determined to have a less than significant individual and cumulative impact for GHG emissions.

e) Residential Projects Located Outside City Sphere of Influence

Residential Projects (or mixed use projects with a residential component) in excess of 250 residential dwelling units that are located in unincorporated area not within a City Sphere of Influence (SOI) will not be eligible to use the Screening Tables or rely on the Plan for a determination of less than significant on individual or cumulative impact for GHG emissions. These projects must perform an independent project-specific evaluation of GHG emissions, and present project-specific conclusions regarding significance of GHG emissions impacts.

5 Impacts and Mitigation

Air pollutant emissions associated with the project would occur over the short term from construction activities, such as fugitive dust from site preparation and grading and emissions from equipment exhaust. There would be long-term regional emissions associated with project-related vehicular trips and stationary source emissions due to energy consumption, such as natural gas and electricity usage by the proposed project.

5.1 Air Quality Emissions

5.1.1 Construction Impacts

Construction activities associated with implementation of the Project have the potential to create air quality impacts through the use of heavy-duty construction equipment, construction worker vehicle trips, material delivery trips, and heavy-duty haul truck trips generated from construction activities. In addition, earthwork activities would result in fugitive dust emissions and paving operations and would also release ROG_s from off-gassing. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

5.1.1.1 Equipment Exhaust and Related Construction Activities

The construction equipment hours, haul truck trips, and employee commute trips required to complete each of the design variations were estimated by HDR based on input received from DSE Grading & Demo (February 2018). The construction emissions for each phase of construction were calculated using the CalEEMod model. The total exhaust emissions generated during the entire construction period are listed in Table 5-1.

The construction emission estimates are also detailed in Appendix A. As identified in Table 5-1, the daily construction emissions would not exceed the SCAQMD’s thresholds.

Table 5-1. Construction Emissions					
Phase	CO	ROGs	NO_x	PM₁₀	PM_{2.5}
Site Preparation	44.3	2.9	89.8	9.3	5.0
Grading	30.3	1.7	37.6	2.3	1.3
Building Construction	33.1	3.0	36.3	4.4	1.9
Paving	18.0	1.7	20.2	0.8	0.7
Architectural Coating	3.8	14.8	2.5	0.6	0.2
Peak Day (lbs/day)	44.3	14.8	89.8	9.3	5.0
SCAQMD Thresholds	550	75	100	150	55
Exceedance	No	No	No	No	No

5.1.1.2 Fugitive Dust

Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending upon prevailing wind conditions. Fugitive dust also would be generated as construction equipment or trucks travel on unpaved areas of the construction site.

PM_{2.5} and PM₁₀ emissions from construction operations were calculated using the CalEEMod model and are included in the emissions listed in Table 5-1. SCAQMD has established Rule 403 for reducing fugitive dust emissions through the use of best available control measures (BACM). As identified in Table 5-1, the proposed project’s PM₁₀ emissions would not exceed the SCAQMD’s significance thresholds. These estimates assume compliance with SCAQMD Rule 403.

5.1.1.3 Naturally Occurring Asbestos

All Project construction is located in San Bernardino County, which is not among the counties listed as containing serpentine and ultramafic rock (A General Location Guide for Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos, Department of Conservation, Division of Mines and Geology, August 2000). Therefore, the impact from Naturally Occurring Asbestos (NOA) during Project construction would be minimal to none. No impact would result.

5.1.1.4 Odors

Construction of the project could result in emission of odors from construction equipment and vehicles (e.g., diesel exhaust). It is anticipated that these odors would be short-term, limited in extent at any given time, and distributed throughout the project study area during the duration of construction, and, therefore, would not affect a substantial number of individuals.

5.1.1.5 Localized Significance Threshold Analysis

Table 5-2 show the construction-related emissions of CO, NO_x, PM₁₀, and PM_{2.5} compared to the localized significance thresholds (LSTs) for the West San Bernardino Valley area at a distance of 25 m. As required by the SCAQMD's LST Methodology (Final Localized Significance Threshold Methodology, July 2008), only the on-site construction emissions are included in Table 5-2. As identified, the calculated emissions rates for the proposed on-site construction activities would not exceed the SCAQMD's LSTs.

Table 5-2. Summary of On-Site Construction Emissions, Localized Significance				
Project Phase	Emission Rates (lbs/day)			
	CO	NO _x	PM ₁₀	PM _{2.5}
Site Preparation	35.7	52.2	6.8	4.3
Grading	15.7	20.0	1.0	0.7
Building Construction	17.9	23.6	0.9	0.9
Paving	17.3	20.1	0.7	0.7
Architectural Coating	1.8	2.4	0.1	0.1
Peak Day (lbs/day)	35.7	52.2	6.8	4.3
SCAQMD Thresholds	1,746	270	14	8
Exceeds Daily SCAQMD Threshold?	No	No	No	No

5.1.2 Operation Impacts

Long-term air pollutant emission impacts are those associated with stationary sources and mobile sources involving any project-related changes. The proposed project would have potential long-term operational air quality impacts from mobile source emissions associated with vehicular trips generated by the proposed project and stationary source emissions from on-site energy consumption.

5.1.2.1 On-Road, Energy, and Area Source Emissions

According to the traffic study for Project operations there would be 657 daily trips on Saturdays and 1,112 daily trips on Sundays associated with the proposed project (Translutions, August 2017). The CalEEMod model was used to calculate the operational emissions associated with the proposed project. Table 5-3 identifies the peak daily emissions from operations of the proposed project.

5.1.2.2 Localized Significance Threshold Analysis

Table 5-4 identifies the operational emissions of CO, NO_x, PM₁₀, and PM_{2.5} compared to the localized significance thresholds (LSTs) for the West San Bernardino Valley area at a distance of 25 m. As required by the SCAQMD's LST Methodology (Final Localized Significance Threshold Methodology, July 2008), only the on-site emissions are included in Table 5-4. Table 5-4 includes all of the area source and energy emissions, and five

percent of the on-road emissions. As shown, the calculated emissions rates for the proposed on-site operation activities would not exceed the LSTs.

Source	CO	NO _x	ROG	SO _x	PM ₁₀	PM _{2.5}
Area	0.1	0.0	1.3	0.0	0.0	0.0
Energy	0.3	0.4	0.0	0.0	0.0	0.0
Mobile	20.5	8.5	1.9	0.1	5.1	1.4
Total	20.9	8.9	3.2	0.1	5.1	1.4
SCAQMD Thresholds	550	55	55	150	150	55
Exceeds Daily SCAQMD Threshold?	No	No	No	No	No	No

Note: Columns may not add up due to rounding.

Project Phase	Emission Rates (lbs/day)			
	CO	NO _x	PM ₁₀	PM _{2.5}
Area	0.1	0.0	0.0	0.0
Energy	0.3	0.4	0.0	0.0
Mobile	1.0	0.4	0.3	0.1
Total (lbs/day)	1.4	0.8	0.3	0.1
SCAQMD Thresholds	1,746	270	4	2
Exceeds Daily SCAQMD Threshold?	No	No	No	No

5.1.2.3 Long-Term Microscale (CO Hot Spot) Analysis

Vehicular trips associated with the proposed project would contribute to congestion at intersections and along roadway segments in the project vicinity. Localized air quality impacts would occur when emissions from vehicular traffic increase as a result of the proposed project. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, thus, of traffic flow conditions. CO transport is extremely limited; under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels, affecting local sensitive receptors (residents, schoolchildren, the elderly, and hospital patients, etc.).

Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended, to determine a project's effect on local CO levels.

An assessment of project-related impacts on localized ambient air quality requires that future ambient air quality levels be projected. Existing CO concentrations in the immediate project vicinity are not available. Ambient CO levels monitored in the San Bernardino station showed a highest recorded 1-hour concentration of 4.1 ppm (state standard is 20 ppm) and a highest 8-hour concentration of 2.4 ppm (state standard is 9 ppm) during the past 3 years (see Table 3-1). The highest CO concentrations would normally occur during peak traffic hours; hence, CO impacts calculated under peak traffic conditions represent a worst-case analysis.

Given the extremely low level of CO concentrations in the project area, project-related vehicles are not expected to result in the CO concentrations exceeding the state or federal CO standards. Because no CO hot spot would occur, there would be no project-related impacts on CO concentrations if the project was constructed and operated on the project site.

5.2 Greenhouse Gas Emissions

The analysis of GHG emissions, unlike air quality analysis which is a ‘per day’ threshold, is an aggregate quantity requiring summation over the total estimated number of work days (i.e., the total number of days that any construction grading vehicle would have an engine running).

5.2.1 Construction Emissions

Construction of the proposed project would result in temporary emissions associated with diesel engine combustion from mass grading, and site preparation construction equipment has been assumed to occur for engines running at the correct fuel-to-air ratios (the ratio whereby complete combustion of the diesel fuel occurs). Construction-related GHG emissions include site preparation, excavation, and associated construction of the proposed church facilities.

The project site would be cleared, graded, and constructed over the course of approximately two years. The most recent version of the CalEEMod model (Version 2016.3.1) was used to calculate the construction emissions. Table 5-5 quantifies the expected GHG emissions from construction activities. As shown, construction of the proposed project would generate 1,500 metric tons of CO₂e. Amortized over a 30-year period, the approximate life of the project, the yearly contribution to GHG from the construction of the Project would be 50 MT of CO₂e per year.

Table 5-5. Construction GHG Emissions				
Year	Pollutant Emissions (Metric Tons/year)			
	CO₂	CH₄	N₂O	CO₂e
2018	577.5	0.1	0.0	579.7
2019	900.1	0.1	0.0	902.7
2020	18.0	0.0	0.0	18.0
Total	1,495.6	0.2	0.0	1,500.4
Amortized over 30 years	49.8	0.004	0.0	50.0

5.2.2 Operational Emissions

The operational GHG emission estimates were also calculated using CalEEMod. The following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions:

Gas, Electricity, and Water Use: Natural gas use results in the emissions of two GHGs: CH₄ (the major component of natural gas) and CO₂ from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. Annual electricity emissions were estimated using the reported GHG emissions per kilowatt-hour for Southern California Edison; the supplier would provide electricity for the project.

Solid Waste Disposal: Solid waste generated by the project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH₄ from the anaerobic decomposition of organic materials. CH₄ is 21 times more potent a GHG than CO₂. However, landfill CH₄ can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.

Motor Vehicle Use: Transportation associated with the proposed project would result in GHG emissions from the combustion of fossil fuels in vehicle trips. The proposed project would result in GHG emissions through the vehicular traffic generated by the proposed project. According to the traffic study for Project operations there would be 657 daily trips on Saturdays and 1,112 daily trips on Sundays associated with the proposed project (Translutions, August 2017).

Combined Emissions: The GHG emission estimates presented in Table 5-6 show the emissions associated with the level of development at build-out. Appendix A includes the annual CalEEMod calculations for GHG emissions. Table 5-6 shows that project operations would result in average annual emissions of 1,139.6 metric tons of CO₂e/year.

The total annual GHG emissions of 1,140 MT of CO₂e is less than the County's screening threshold of 3,000 MT of CO₂e per year. Therefore, the proposed project will be considered to be consistent with the San Bernardino County GHG Emissions Reduction Plan and determined to have a less than significant individual and cumulative impact for GHG emissions.



Table 5-6. Annual GHG Emissions

Source	Pollutant Emissions (Metric Tons/year)					
	Bio-CO ₂	NBio-CO ₂	CO ₂	CH ₄	N ₂ O	CO ₂ e
Construction Emissions Amortized over 30 Years	0.0	49.9	49.9	0.0	0.0	50.0
Operational Emissions						
Area Sources	0.0	0.0	0.0	0.0	0.0	0.0
Energy Sources	0.0	292.8	292.8	0.01	0.0	294.0
Mobile Sources	0.0	635.8	635.8	0.03	0.0	636.6
Waste Sources	55.3	0.0	55.3	3.27	0.0	137.1
Water Usage	0.5	19.8	20.2	0.05	0.0	21.9
Total Operational Emissions	55.8	948.3	1,004.1	3.4	0.0	1,089.6
Total Project Emissions	55.8	998.2	1,054.0	3.4	0.0	1,139.6

Note: Columns may not add up due to rounding.

5.3 Air Quality Management Plan Consistency

An AQMP describes air pollution control strategies to be taken by a city/county or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with the requirements of federal and State air quality standards. CEQA requires that certain proposed projects be analyzed for consistency with the AQMP. For a project to be consistent with the 2016 AQMP, the pollutants emitted from the project should not exceed the SCAQMD daily threshold or cause a significant impact on air quality. However, if feasible mitigation measures are implemented and shown to reduce the impact level from significant to less than significant, the project is deemed consistent with the AQMP.

The AQMP uses the assumptions and projections of local planning agencies to determine control strategies for regional compliance status. Since the AQMP is based on local General Plans, projects that are deemed consistent with the General Plan are usually found to be consistent with the AQMP. The proposed project site is currently designated for light industrial uses within the County of San Bernardino’s General Plan. The proposed project would generate fewer traffic trips during weekday peak hours and very few on-site emissions when compared to an industrial development. In addition, the proposed project will not exceed the SCAQMD’s long-term growth projections and emissions thresholds. Therefore, implementation of the project will not conflict with the 2016 AQMP, and no significant impacts will result.

5.4 Cumulative Impact

The proposed project area is currently in nonattainment for O₃, PM₁₀, and PM_{2.5}. As shown in Table 5-1 and 5-2, the proposed project’s construction emissions would not exceed the SCAQMD’s significance thresholds. Construction of the project would not contribute cumulatively to the local and regional air pollutants, together with other

projects under construction. Therefore, construction of the proposed project would not contribute to significant cumulative air quality impacts.

As shown in Tables 5-3 and 5-4, the proposed project's operational emissions would not exceed the SCAQMD's long-term emission thresholds. In addition, as shown in Table 5-6, the proposed project's GHG emissions would be less than the County's screening threshold. Therefore, the project would not contribute to a long-term cumulative air quality impact.

6 Standard Conditions

The following measures will be implemented during construction activities:

AQ-1 During clearing, grading, earthmoving, or excavation operations, excessive fugitive dust emissions will be controlled by regular watering or other dust preventive measures using the following procedures, as specified in the South Coast Air Quality Management District (SCAQMD) Rule 403. All material excavated or graded will be sufficiently watered in sufficient quantities to prevent the generation of visible dust plumes. Watering will occur at least twice daily with complete coverage, preferably in the late morning and after work is done for the day. All material transported on-site or off-site will be securely covered to prevent excessive amounts of dust. The area disturbed by clearing, grading, earth moving, or excavation operations will be minimized so as to prevent excessive amounts of dust. These control techniques will be indicated in Project specifications.

In addition, where feasible, the following measures will be implemented to reduce construction emissions;

- Minimize land disturbance;
- Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the Project work areas;
- Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes;
- Cover trucks when hauling dirt;
- Stabilize the surface of dirt piles if not removed immediately;
- Limit vehicular paths on unpaved surfaces and stabilize any temporary roads;
- Minimize unnecessary vehicular and machinery activities;
- Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway;
- Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities;

- Ensure that all construction equipment is properly tuned and maintained;
- Minimize idling time to 5 minutes—saves fuel and reduces emissions;
- Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the Project work areas;
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators;
- Develop a traffic plan to minimize traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites; and

7 References

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Appendix A. CalEEMod Modeling

Church of the Woods - South Coast Air Basin, Summary Report

**Church of the Woods
South Coast, Summary Report**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	47.81	1000sqft	1.10	47,809.00	1
Other Asphalt Surfaces	26.20	1000sqft	0.60	26,200.00	0
Other Non-Asphalt Surfaces	256.65	1000sqft	5.89	256,650.00	0
Parking Lot	199.48	1000sqft	4.58	199,478.00	0
City Park	1.25	Acre	1.25	54,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments

Only CalEEMod defaults were used.

Project Characteristics -

Land Use - Church square footage includes the assembly building, gymnasium, and maintenance building. Other Non-asphalt surface includes landscaping. One

Construction Phase - Schedule based on contractor estimates

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Contractor estimate

Off-road Equipment - Contractor Estimate

Off-road Equipment -

Off-road Equipment - Contractor estimate

Grading - contractor Estimate

Vehicle Trips - all trips assigned to the church use.

Construction Off-road Equipment Mitigation - All equipment will be minimum Tier 2

Energy Mitigation - CalEEMod includes 2013 Title 24. 2016 Title 24 is 5% more energy efficient for non-residential uses

2.0 Peak Daily Emissions

Peak Daily Construction Emissions

Peak Daily Construction Emissions

		Unmitigated						Mitigated					
		ROG	NOX	CO	SO2	PM10	PM2.5	ROG	NOX	CO	SO2	PM10	PM2.5
Year	Phase	lb/day											
2018	Site Preparation	7.0370 W	105.4770 W	43.2278 W	0.1596 S	17.8708 W	10.1912 W	2.9120 W	89.8397 W	44.2799 W	0.1596 S	9.2679 W	5.0146 W
2018	Grading	3.1918 W	35.0442 W	24.8391 S	0.0454 S	3.8508 S	1.8311 S	1.7123 W	37.6299 W	30.2511 S	0.0454 S	2.3081 S	1.3424 S
2018	Building Construction	4.5512 W	36.1193 W	32.8483 S	0.0820 S	4.9725 W	2.4191 W	2.9525 W	36.2837 W	33.1416 S	0.0820 S	4.3762 W	1.9128 W
2019	Building Construction	4.0631 W	33.0308 W	30.9004 S	0.0807 S	4.7496 W	2.2096 W	2.7828 W	35.5064 W	31.6103 S	0.0807 S	4.3633 W	1.9005 W
2019	Paving	2.2130 W	15.3001 W	15.3367 S	0.0246 S	0.9936 S	0.8043 S	1.6896 W	20.1706 W	17.9676 S	0.0246 S	0.8360 S	0.7126 S
2020	Paving	2.1092 W	14.1155 W	15.2635 S	0.0245 S	0.9217 S	0.7382 S	1.6837 W	20.1646 W	17.9070 S	0.0245 S	0.8359 S	0.7126 S
2020	Architectural Coating	14.9172 W	1.8471 W	3.8286 S	8.6000e-003 S	0.6628 S	0.2600 S	14.7890 W	2.5156 W	3.8296 S	8.6000e-003 S	0.6470 S	0.2442 S
	Peak Daily Total	14.9172 W	105.4770 W	43.2278 W	0.1596 S	17.8708 W	10.1912 W	14.7890 W	89.8397 W	44.2799 W	0.1596 S	9.2679 W	5.0146 W
	Air District Threshold												
	Exceed Significance?												

Peak Daily Operational Emissions

Peak Daily Operational Emissions

	Unmitigated	Mitigated
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Church of the Woods - South Coast Air Basin, Summer

Church of the Woods
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	47.81	1000sqft	1.10	47,809.00	1
Other Asphalt Surfaces	26.20	1000sqft	0.60	26,200.00	0
Other Non-Asphalt Surfaces	256.65	1000sqft	5.89	256,650.00	0
Parking Lot	199.48	1000sqft	4.58	199,478.00	0
City Park	1.25	Acre	1.25	54,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Church square footage includes the assembly building, gymnasium, and maintenance building. Other Non-asphalt surface includes

Construction Phase - Schedule based on contractor estimates

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Contractor estimate

Off-road Equipment - Contractor Estimate

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	10.00	45.00
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	112.50	13.25
tblGrading	MaterialExported	0.00	42,368.00
tblLandUse	BuildingSpaceSquareFeet	47,810.00	47,809.00
tblLandUse	BuildingSpaceSquareFeet	199,480.00	199,478.00
tblLandUse	LandUseSquareFeet	47,810.00	47,809.00
tblLandUse	LandUseSquareFeet	199,480.00	199,478.00
tblLandUse	Population	0.00	1.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	13.74
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	23.23
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	12.07

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					
2018	6.9988	104.9517	42.7651	0.1596	14.7198	3.1482	17.8680	7.2869	2.9016	10.1886	0.0000	16,764.19	16,764.19	2.7298	0.0000	16,832.43
												23	23			74
2019	3.9296	32.9347	30.9004	0.0807	3.3640	1.3844	4.7484	0.9061	1.3024	2.2085	0.0000	8,130.586	8,130.586	0.8997	0.0000	8,153.077
												2	2			5
2020	14.8952	14.1110	15.2635	0.0245	0.5477	0.7541	0.9217	0.1453	0.6938	0.7382	0.0000	2,379.308	2,379.308	0.7190	0.0000	2,397.283
												9	9			1

Maximum	14.8952	104.9517	42.7651	0.1596	14.7198	3.1482	17.8680	7.2869	2.9016	10.1886	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74
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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					
2018	2.8738	89.3144	43.8172	0.1596	7.8652	1.3999	9.2651	3.6183	1.3936	5.0119	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74
2019	2.6493	35.4103	31.6103	0.0807	3.3640	0.9981	4.3621	0.9061	0.9933	1.8993	0.0000	8,130.586 2	8,130.586 2	0.8997	0.0000	8,153.077 5
2020	14.7670	20.1601	17.9070	0.0245	0.5477	0.6682	0.8359	0.1453	0.6681	0.7126	0.0000	2,379.308 9	2,379.308 9	0.7190	0.0000	2,397.283 1
Maximum	14.7670	89.3144	43.8172	0.1596	7.8652	1.3999	9.2651	3.6183	1.3936	5.0119	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	21.43	4.68	-4.95	0.00	36.79	42.00	38.55	44.00	37.62	41.96	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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Mobile	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.595 9	6,692.595 9	0.3526		6,701.412 1

Total	3.1907	8.7531	20.9219	0.0684	5.0344	0.0973	5.1317	1.3470	0.0932	1.4402		7,194.4563	7,194.4563	0.3626	9.2000e-003	7,206.2618
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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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Mobile	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121
Total	3.1896	8.7432	20.9135	0.0683	5.0344	0.0965	5.1309	1.3470	0.0925	1.4394		7,182.5676	7,182.5676	0.3623	8.9800e-003	7,194.3025

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.03	0.11	0.04	0.09	0.00	0.78	0.01	0.00	0.82	0.05	0.00	0.17	0.17	0.06	2.39	0.17

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/2/2018	8/31/2018	5	45	
2	Curb Grading	Grading	9/1/2018	9/21/2018	5	15	
3	Fine Grading	Grading	9/22/2018	10/12/2018	5	15	
4	Building Construction	Building Construction	10/13/2018	12/6/2019	5	300	
5	Paving	Paving	12/7/2019	1/3/2020	5	20	
6	Architectural Coating	Architectural Coating	1/4/2020	2/28/2020	5	40	

Acres of Grading (Site Preparation Phase): 13.25

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 71,714; Non-Residential Outdoor: 23,905; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
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
Curb Grading	Excavators	2	8.00	158	0.38
Curb Grading	Graders	1	8.00	187	0.41
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Curb Grading	Rubber Tired Dozers	0	8.00	247	0.40
Curb Grading	Scrapers	0	8.00	367	0.48
Curb Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Curb Grading	Rollers	1	8.00	80	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rollers	1	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Fine Grading	Scrapers	0	8.00	367	0.48

Fine Grading	Skid Steer Loaders	1	8.00	65	0.37
Fine Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	246.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Curb Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	5,296.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

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					12.4629	0.0000	12.4629	6.6703	0.0000	6.6703			0.0000			0.0000
Off-Road	5.8328	67.8668	34.6942	0.0637		3.0034	3.0034		2.7631	2.7631		6,408.3435	6,408.3435	1.9950		6,458.2186
Total	5.8328	67.8668	34.6942	0.0637	12.4629	3.0034	15.4663	6.6703	2.7631	9.4334		6,408.3435	6,408.3435	1.9950		6,458.2186

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0698	37.0156	7.1704	0.0937	2.0557	0.1432	2.1989	0.5633	0.1370	0.7003		10,136.4792	10,136.4792	0.7273		10,154.6618
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	0.0962	0.0693	0.9006	2.2000e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		219.3696	219.3696	7.5000e-003		219.5571
Total	1.1660	37.0849	8.0709	0.0959	2.2569	0.1449	2.4017	0.6166	0.1385	0.7552		10,355.8488	10,355.8488	0.7348		10,374.2188

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					5.6083	0.0000	5.6083	3.0016	0.0000	3.0016			0.0000			0.0000
Off-Road	1.7078	52.2295	35.7463	0.0637		1.2551	1.2551		1.2551	1.2551	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186
Total	1.7078	52.2295	35.7463	0.0637	5.6083	1.2551	6.8634	3.0016	1.2551	4.2567	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186

Mitigated Construction Off-Site

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

Hauling	1.0698	37.0156	7.1704	0.0937	2.0557	0.1432	2.1989	0.5633	0.1370	0.7003		10,136.47 92	10,136.47 92	0.7273		10,154.66 18
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	0.0962	0.0693	0.9006	2.2000e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		219.3696	219.3696	7.5000e-003		219.5571
Total	1.1660	37.0849	8.0709	0.0959	2.2569	0.1449	2.4017	0.6166	0.1385	0.7552		10,355.84 88	10,355.84 88	0.7348		10,374.21 88

3.3 Curb Grading - 2018

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					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.6187	18.4109	12.7137	0.0227		0.8877	0.8877		0.8167	0.8167		2,282.454 2	2,282.454 2	0.7106		2,300.218 2
Total	1.6187	18.4109	12.7137	0.0227	0.9368	0.8877	1.8245	0.1012	0.8167	0.9179		2,282.454 2	2,282.454 2	0.7106		2,300.218 2

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.8320	19.9645	15.6527	0.0227		0.6133	0.6133		0.6133	0.6133	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2
Total	0.8320	19.9645	15.6527	0.0227	0.4216	0.6133	1.0348	0.0455	0.6133	0.6588	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

3.4 Fine Grading - 2018

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
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Category	lb/day										lb/day					
Fugitive Dust					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.4208	16.5233	10.8246	0.0196		0.7966	0.7966		0.7329	0.7329		1,969.909	1,969.909	0.6133		1,985.240
												0	0			5
Total	1.4208	16.5233	10.8246	0.0196	0.9368	0.7966	1.7334	0.1012	0.7329	0.8340		1,969.909	1,969.909	0.6133		1,985.240
												0	0			5

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.7280	17.5554	13.2977	0.0196		0.5588	0.5588		0.5588	0.5588	0.0000	1,969.909	1,969.909	0.6133		1,985.240
												0	0			5
Total	0.7280	17.5554	13.2977	0.0196	0.4216	0.5588	0.9804	0.0455	0.5588	0.6044	0.0000	1,969.909	1,969.909	0.6133		1,985.240
												0	0			5

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

3.5 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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
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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	0.0000	0.0000
Vendor	0.4130	11.6633	2.9604	0.0249	0.6143	0.0853	0.6995	0.1768	0.0816	0.2584	2,659.2883	2,659.2883	0.1837		2,663.8802	
Worker	1.3142	0.9475	12.3075	0.0301	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496	2,998.0514	2,998.0514	0.1025		3,000.6131	
Total	1.7272	12.6108	15.2679	0.0551	3.3640	0.1073	3.4713	0.9061	0.1019	1.0080	5,657.3397	5,657.3397	0.2862		5,664.4933	

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.4130	11.6633	2.9604	0.0249	0.6143	0.0853	0.6995	0.1768	0.0816	0.2584	2,659.2883	2,659.2883	0.1837			2,663.8802
Worker	1.3142	0.9475	12.3075	0.0301	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496	2,998.0514	2,998.0514	0.1025			3,000.6131

Total	1.7272	12.6108	15.2679	0.0551	3.3640	0.1073	3.4713	0.9061	0.1019	1.0080		5,657.339	5,657.339	0.2862		5,664.493
												7	7			3

3.5 Building Construction - 2019

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580	2,591.580	0.6313		2,607.363
												2	2			5
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580	2,591.580	0.6313		2,607.363
												2	2			5

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	0.3742	11.0200	2.7174	0.0247	0.6143	0.0731	0.6873	0.1768	0.0699	0.2467		2,635.316	2,635.316	0.1773		2,639.749
												8	8			6
Worker	1.1943	0.8358	11.0191	0.0292	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,903.689	2,903.689	0.0910		2,905.964
												2	2			4
Total	1.5685	11.8559	13.7366	0.0538	3.3640	0.0946	3.4586	0.9061	0.0897	0.9958		5,539.006	5,539.006	0.2683		5,545.714
												0	0			0

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

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	0.3742	11.0200	2.7174	0.0247	0.6143	0.0731	0.6873	0.1768	0.0699	0.2467		2,635.3168	2,635.3168	0.1773		2,639.7496
Worker	1.1943	0.8358	11.0191	0.0292	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,903.6892	2,903.6892	0.0910		2,905.9644
Total	1.5685	11.8559	13.7366	0.0538	3.3640	0.0946	3.4586	0.9061	0.0897	0.9958		5,539.0060	5,539.0060	0.2683		5,545.7140

3.6 Paving - 2019

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	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	2.1330	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
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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	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930
Total	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

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	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930
Total	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930

3.6 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0351	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

3.7 Architectural Coating - 2020

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	14.6755	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836
Total	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928
Total	14.5472	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928

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	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836
Total	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121
Unmitigated	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	577.07	656.91	1110.63	1,417,656	1,417,656
Total	577.07	656.91	1,110.63	1,417,656	1,417,656

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Non-Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Parking Lot	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
City Park	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
NaturalGas Unmitigated	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4264.82	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Total		0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4.16377	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Total		0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664

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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Unmitigated	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Church of the Woods - South Coast Air Basin, Winter

Church of the Woods
South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	47.81	1000sqft	1.10	47,809.00	1
Other Asphalt Surfaces	26.20	1000sqft	0.60	26,200.00	0
Other Non-Asphalt Surfaces	256.65	1000sqft	5.89	256,650.00	0
Parking Lot	199.48	1000sqft	4.58	199,478.00	0
City Park	1.25	Acre	1.25	54,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	702.44	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Church square footage includes the assembly building, gymnasium, and maintenance building. Other Non-asphalt surface includes

Construction Phase - Schedule based on contractor estimates

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Contractor estimate

Off-road Equipment - Contractor Estimate

Off-road Equipment -

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	10.00	45.00
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	112.50	13.25
tblGrading	MaterialExported	0.00	42,368.00
tblLandUse	BuildingSpaceSquareFeet	47,810.00	47,809.00
tblLandUse	BuildingSpaceSquareFeet	199,480.00	199,478.00
tblLandUse	LandUseSquareFeet	47,810.00	47,809.00
tblLandUse	LandUseSquareFeet	199,480.00	199,478.00
tblLandUse	Population	0.00	1.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	13.74
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	23.23
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	12.07

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					
2018	7.0370	105.4770	43.2278	0.1579	14.7198	3.1510	17.8708	7.2869	2.9043	10.1912	0.0000	16,582.29 95	16,582.29 95	2.7593	0.0000	16,651.28 16
2019	4.0631	33.0308	30.1848	0.0783	3.3640	1.3856	4.7496	0.9061	1.3035	2.2096	0.0000	7,879.745 5	7,879.745 5	0.9064	0.0000	7,902.404 8
2020	14.9172	14.1155	15.2065	0.0244	0.5477	0.7541	0.9217	0.1453	0.6938	0.7382	0.0000	2,368.661 1	2,368.661 1	0.7187	0.0000	2,386.627 6
Maximum	14.9172	105.4770	43.2278	0.1579	14.7198	3.1510	17.8708	7.2869	2.9043	10.1912	0.0000	16,582.29 95	16,582.29 95	2.7593	0.0000	16,651.28 16

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					
2018	2.9525	89.8397	44.2799	0.1579	7.8652	1.4027	9.2679	3.6183	1.3963	5.0146	0.0000	16,582.2995	16,582.2995	2.7593	0.0000	16,651.2816
2019	2.7828	35.5064	30.8948	0.0783	3.3640	0.9993	4.3633	0.9061	0.9944	1.9005	0.0000	7,879.7455	7,879.7455	0.9064	0.0000	7,902.4048
2020	14.7890	20.1646	17.8500	0.0244	0.5477	0.6682	0.8359	0.1453	0.6681	0.7126	0.0000	2,368.6611	2,368.6611	0.7187	0.0000	2,386.6276
Maximum	14.7890	89.8397	44.2799	0.1579	7.8652	1.4027	9.2679	3.6183	1.3963	5.0146	0.0000	16,582.2995	16,582.2995	2.7593	0.0000	16,651.2816

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	21.11	4.66	-4.97	0.00	36.79	41.97	38.55	44.00	37.60	41.95	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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Mobile	1.7888	8.4711	19.7425	0.0624	5.0344	0.0658	5.1002	1.3470	0.0617	1.4087		6,341.5073	6,341.5073	0.3553		6,350.3899
Total	3.1183	8.8897	20.1483	0.0649	5.0344	0.0978	5.1322	1.3470	0.0937	1.4407		6,843.3677	6,843.3677	0.3652	9.2000e-003	6,855.2397

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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Mobile	1.7888	8.4711	19.7425	0.0624	5.0344	0.0658	5.1002	1.3470	0.0617	1.4087		6,341.5073	6,341.5073	0.3553		6,350.3899
Total	3.1172	8.8798	20.1400	0.0648	5.0344	0.0970	5.1314	1.3470	0.0930	1.4399		6,831.4790	6,831.4790	0.3650	8.9800e-003	6,843.2804

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.03	0.11	0.04	0.09	0.00	0.78	0.01	0.00	0.81	0.05	0.00	0.17	0.17	0.06	2.39	0.17

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/2/2018	8/31/2018	5	45	
2	Curb Grading	Grading	9/1/2018	9/21/2018	5	15	
3	Fine Grading	Grading	9/22/2018	10/12/2018	5	15	
4	Building Construction	Building Construction	10/13/2018	12/6/2019	5	300	
5	Paving	Paving	12/7/2019	1/3/2020	5	20	
6	Architectural Coating	Architectural Coating	1/4/2020	2/28/2020	5	40	

Acres of Grading (Site Preparation Phase): 13.25

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 71,714; Non-Residential Outdoor: 23,905; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
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
Curb Grading	Excavators	2	8.00	158	0.38
Curb Grading	Graders	1	8.00	187	0.41
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Curb Grading	Rubber Tired Dozers	0	8.00	247	0.40
Curb Grading	Scrapers	0	8.00	367	0.48
Curb Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Curb Grading	Rollers	1	8.00	80	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rollers	1	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Fine Grading	Scrapers	0	8.00	367	0.48
Fine Grading	Skid Steer Loaders	1	8.00	65	0.37
Fine Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	246.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Curb Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	5,296.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

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					12.4629	0.0000	12.4629	6.6703	0.0000	6.6703			0.0000			0.0000
Off-Road	5.8328	67.8668	34.6942	0.0637		3.0034	3.0034		2.7631	2.7631		6,408.343 5	6,408.343 5	1.9950		6,458.218 6
Total	5.8328	67.8668	34.6942	0.0637	12.4629	3.0034	15.4663	6.6703	2.7631	9.4334		6,408.343 5	6,408.343 5	1.9950		6,458.218 6

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
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Category	lb/day										lb/day					
Hauling	1.0988	37.5340	7.7130	0.0922	2.0557	0.1460	2.2017	0.5633	0.1397	0.7030		9,968.1706	9,968.1706	0.7572		9,987.1014
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	0.1055	0.0762	0.8206	2.0700e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		205.7855	205.7855	7.0500e-003		205.9616
Total	1.2042	37.6102	8.5336	0.0942	2.2569	0.1476	2.4045	0.6166	0.1412	0.7578		10,173.9561	10,173.9561	0.7643		10,193.0631

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					5.6083	0.0000	5.6083	3.0016	0.0000	3.0016			0.0000			0.0000
Off-Road	1.7078	52.2295	35.7463	0.0637		1.2551	1.2551		1.2551	1.2551	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186
Total	1.7078	52.2295	35.7463	0.0637	5.6083	1.2551	6.8634	3.0016	1.2551	4.2567	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0988	37.5340	7.7130	0.0922	2.0557	0.1460	2.2017	0.5633	0.1397	0.7030		9,968.1706	9,968.1706	0.7572		9,987.1014
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	0.1055	0.0762	0.8206	2.0700e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		205.7855	205.7855	7.0500e-003		205.9616

Total	1.2042	37.6102	8.5336	0.0942	2.2569	0.1476	2.4045	0.6166	0.1412	0.7578		10,173.95	10,173.95	0.7643		10,193.06
												61	61			31

3.3 Curb Grading - 2018

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					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.6187	18.4109	12.7137	0.0227		0.8877	0.8877		0.8167	0.8167		2,282.454	2,282.454	0.7106		2,300.218
												2	2			2
Total	1.6187	18.4109	12.7137	0.0227	0.9368	0.8877	1.8245	0.1012	0.8167	0.9179		2,282.454	2,282.454	0.7106		2,300.218
												2	2			2

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	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501
												148.6228	148.6228	5.0900e-003		148.7501
Total	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501
												148.6228	148.6228	5.0900e-003		148.7501

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.8320	19.9645	15.6527	0.0227		0.6133	0.6133		0.6133	0.6133	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2
Total	0.8320	19.9645	15.6527	0.0227	0.4216	0.6133	1.0348	0.0455	0.6133	0.6588	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2

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	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501
Total	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501

3.4 Fine Grading - 2018

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					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.4208	16.5233	10.8246	0.0196		0.7966	0.7966		0.7329	0.7329		1,969.909 0	1,969.909 0	0.6133		1,985.240 5

Total	1.4208	16.5233	10.8246	0.0196	0.9368	0.7966	1.7334	0.1012	0.7329	0.8340		1,969.909	1,969.909	0.6133		1,985.240
												0	0			5

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	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501
Total	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.7280	17.5554	13.2977	0.0196		0.5588	0.5588		0.5588	0.5588	0.0000	1,969.909	1,969.909	0.6133		1,985.240
												0	0			5
Total	0.7280	17.5554	13.2977	0.0196	0.4216	0.5588	0.9804	0.0455	0.5588	0.6044	0.0000	1,969.909	1,969.909	0.6133		1,985.240

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	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501
Total	0.0762	0.0550	0.5927	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		148.6228	148.6228	5.0900e-003		148.7501

3.5 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.4305	11.6881	3.2693	0.0243	0.6143	0.0866	0.7009	0.1768	0.0828	0.2597		2,588.5566	2,588.5566	0.1964		2,593.4674

Worker	1.4412	1.0412	11.2154	0.0283	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496		2,812.401 2	2,812.401 2	0.0963		2,814.809 1
Total	1.8717	12.7293	14.4847	0.0525	3.3640	0.1086	3.4726	0.9061	0.1032	1.0092		5,400.957 8	5,400.957 8	0.2928		5,408.276 5

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.935 1	2,620.935 1	0.6421		2,636.988 3

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	0.4305	11.6881	3.2693	0.0243	0.6143	0.0866	0.7009	0.1768	0.0828	0.2597		2,588.556 6	2,588.556 6	0.1964		2,593.467 4
Worker	1.4412	1.0412	11.2154	0.0283	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496		2,812.401 2	2,812.401 2	0.0963		2,814.809 1
Total	1.8717	12.7293	14.4847	0.0525	3.3640	0.1086	3.4726	0.9061	0.1032	1.0092		5,400.957 8	5,400.957 8	0.2928		5,408.276 5

3.5 Building Construction - 2019

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580 2	2,591.580 2	0.6313		2,607.363 5
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580 2	2,591.580 2	0.6313		2,607.363 5

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	0.3903	11.0336	3.0095	0.0240	0.6143	0.0742	0.6885	0.1768	0.0710	0.2478		2,564.533 7	2,564.533 7	0.1896		2,569.274 8
Worker	1.3116	0.9184	10.0115	0.0274	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,723.631 7	2,723.631 7	0.0854		2,725.766 5
Total	1.7019	11.9520	13.0210	0.0514	3.3640	0.0957	3.4597	0.9061	0.0908	0.9969		5,288.165 4	5,288.165 4	0.2750		5,295.041 3

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5

Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.580 2	2,591.580 2	0.6313		2,607.363 5
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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	0.3903	11.0336	3.0095	0.0240	0.6143	0.0742	0.6885	0.1768	0.0710	0.2478		2,564.533 7	2,564.533 7	0.1896		2,569.274 8
Worker	1.3116	0.9184	10.0115	0.0274	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,723.631 7	2,723.631 7	0.0854		2,725.766 5
Total	1.7019	11.9520	13.0210	0.0514	3.3640	0.0957	3.4597	0.9061	0.0908	0.9969		5,288.165 4	5,288.165 4	0.2750		5,295.041 3

3.6 Paving - 2019

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	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.002 5	2,257.002 5	0.7141		2,274.854 8
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.1330	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.002 5	2,257.002 5	0.7141		2,274.854 8

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	0.0800	0.0560	0.6105	1.6700e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		166.0751	166.0751	5.2100e-003		166.2053
Total	0.0800	0.0560	0.6105	1.6700e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		166.0751	166.0751	5.2100e-003		166.2053

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

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	0.0800	0.0560	0.6105	1.6700e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		166.0751	166.0751	5.2100e-003		166.2053
Total	0.0800	0.0560	0.6105	1.6700e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		166.0751	166.0751	5.2100e-003		166.2053

3.6 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0351	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435
Total	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435
Total	0.0740	0.0500	0.5544	1.6200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		160.9277	160.9277	4.6300e-003		161.0435

3.7 Architectural Coating - 2020

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	14.6755	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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	0.2418	0.1632	1.8110	5.2800e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		525.6971	525.6971	0.0151		526.0754
Total	0.2418	0.1632	1.8110	5.2800e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		525.6971	525.6971	0.0151		526.0754

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928
Total	14.5472	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928

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	0.2418	0.1632	1.8110	5.2800e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		525.6971	525.6971	0.0151		526.0754
Total	0.2418	0.1632	1.8110	5.2800e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		525.6971	525.6971	0.0151		526.0754

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7888	8.4711	19.7425	0.0624	5.0344	0.0658	5.1002	1.3470	0.0617	1.4087		6,341.5073	6,341.5073	0.3553		6,350.3899
Unmitigated	1.7888	8.4711	19.7425	0.0624	5.0344	0.0658	5.1002	1.3470	0.0617	1.4087		6,341.5073	6,341.5073	0.3553		6,350.3899

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		

Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	577.07	656.91	1110.63	1,417,656	1,417,656
Total	577.07	656.91	1,110.63	1,417,656	1,417,656

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Non-Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Parking Lot	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
City Park	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
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Category	lb/day										lb/day					
NaturalGas Mitigated	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
NaturalGas Unmitigated	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4264.82	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Total		0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4.16377	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Total		0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664

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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004			0.1241
Unmitigated	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004			0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004			0.1163	0.1163	3.1000e-004	0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004			0.1163	0.1163	3.1000e-004	0.1241

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

Church of the Woods - South Coast Air Basin, Summer

Church of the Woods
South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	47.81	1000sqft	1.10	47,809.00	1
Other Asphalt Surfaces	26.20	1000sqft	0.60	26,200.00	0
Other Non-Asphalt Surfaces	256.65	1000sqft	5.89	256,650.00	0
Parking Lot	199.48	1000sqft	4.58	199,478.00	0
City Park	1.25	Acre	1.25	54,450.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	10			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Church square footage includes the assembly building, gymnasium, and maintenance building. Other Non-asphalt surface includes landscaping, tree canopy, etc.

Construction Phase - Schedule based on contractor estimates

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Contractor estimate

Off-road Equipment - Contractor Estimate

tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	30.00	15.00
tblConstructionPhase	NumDays	10.00	45.00
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	7.50	13.25
tblGrading	AcresOfGrading	112.50	13.25
tblGrading	MaterialExported	0.00	42,368.00
tblLandUse	BuildingSpaceSquareFeet	47,810.00	47,809.00
tblLandUse	BuildingSpaceSquareFeet	199,480.00	199,478.00
tblLandUse	LandUseSquareFeet	47,810.00	47,809.00
tblLandUse	LandUseSquareFeet	199,480.00	199,478.00
tblLandUse	Population	0.00	1.00
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Rollers

tblOffRoadEquipment	OffRoadEquipmentType		Skid Steer Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	OperationalYear	2018	2020
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	ST_TR	10.37	13.74
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	SU_TR	36.63	23.23
tblVehicleTrips	WD_TR	1.89	0.00
tblVehicleTrips	WD_TR	9.11	12.07

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					
2018	6.9988	104.9517	42.7651	0.1596	14.7198	3.1482	17.8680	7.2869	2.9016	10.1886	0.0000	16,764.19	16,764.19	2.7298	0.0000	16,832.43
												23	23			74
2019	3.9296	32.9347	30.9004	0.0807	3.3640	1.3844	4.7484	0.9061	1.3024	2.2085	0.0000	8,130.586	8,130.586	0.8997	0.0000	8,153.077
												2	2			5
2020	14.8952	14.1110	15.2635	0.0245	0.5477	0.7541	0.9217	0.1453	0.6938	0.7382	0.0000	2,379.308	2,379.308	0.7190	0.0000	2,397.283
												9	9			1

Maximum	14.8952	104.9517	42.7651	0.1596	14.7198	3.1482	17.8680	7.2869	2.9016	10.1886	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74
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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					
2018	2.8738	89.3144	43.8172	0.1596	7.8652	1.3999	9.2651	3.6183	1.3936	5.0119	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74
2019	2.6493	35.4103	31.6103	0.0807	3.3640	0.9981	4.3621	0.9061	0.9933	1.8993	0.0000	8,130.586 2	8,130.586 2	0.8997	0.0000	8,153.077 5
2020	14.7670	20.1601	17.9070	0.0245	0.5477	0.6682	0.8359	0.1453	0.6681	0.7126	0.0000	2,379.308 9	2,379.308 9	0.7190	0.0000	2,397.283 1
Maximum	14.7670	89.3144	43.8172	0.1596	7.8652	1.3999	9.2651	3.6183	1.3936	5.0119	0.0000	16,764.19 23	16,764.19 23	2.7298	0.0000	16,832.43 74

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	21.43	4.68	-4.95	0.00	36.79	42.00	38.55	44.00	37.62	41.96	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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Mobile	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.595 9	6,692.595 9	0.3526		6,701.412 1

Total	3.1907	8.7531	20.9219	0.0684	5.0344	0.0973	5.1317	1.3470	0.0932	1.4402		7,194.4563	7,194.4563	0.3626	9.2000e-003	7,206.2618
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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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Energy	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Mobile	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121
Total	3.1896	8.7432	20.9135	0.0683	5.0344	0.0965	5.1309	1.3470	0.0925	1.4394		7,182.5676	7,182.5676	0.3623	8.9800e-003	7,194.3025

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.03	0.11	0.04	0.09	0.00	0.78	0.01	0.00	0.82	0.05	0.00	0.17	0.17	0.06	2.39	0.17

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	7/2/2018	8/31/2018	5	45	
2	Curb Grading	Grading	9/1/2018	9/21/2018	5	15	
3	Fine Grading	Grading	9/22/2018	10/12/2018	5	15	
4	Building Construction	Building Construction	10/13/2018	12/6/2019	5	300	
5	Paving	Paving	12/7/2019	1/3/2020	5	20	
6	Architectural Coating	Architectural Coating	1/4/2020	2/28/2020	5	40	

Acres of Grading (Site Preparation Phase): 13.25

Acres of Grading (Grading Phase): 0

Acres of Paving: 11.07

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 71,714; Non-Residential Outdoor: 23,905; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
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
Curb Grading	Excavators	2	8.00	158	0.38
Curb Grading	Graders	1	8.00	187	0.41
Site Preparation	Crawler Tractors	1	8.00	212	0.43
Curb Grading	Rubber Tired Dozers	0	8.00	247	0.40
Curb Grading	Scrapers	0	8.00	367	0.48
Curb Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
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
Site Preparation	Excavators	1	8.00	158	0.38
Site Preparation	Scrapers	2	8.00	367	0.48
Site Preparation	Rubber Tired Dozers	2	8.00	247	0.40
Curb Grading	Rollers	1	8.00	80	0.38
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Fine Grading	Excavators	1	8.00	158	0.38
Fine Grading	Graders	1	8.00	187	0.41
Fine Grading	Rollers	1	8.00	80	0.38
Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Fine Grading	Scrapers	0	8.00	367	0.48

Fine Grading	Skid Steer Loaders	1	8.00	65	0.37
Fine Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37

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
Architectural Coating	1	49.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	246.00	96.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Curb Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	5,296.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Fine Grading	5	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Clean Paved Roads

3.2 Site Preparation - 2018

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					12.4629	0.0000	12.4629	6.6703	0.0000	6.6703			0.0000			0.0000
Off-Road	5.8328	67.8668	34.6942	0.0637		3.0034	3.0034		2.7631	2.7631		6,408.3435	6,408.3435	1.9950		6,458.2186
Total	5.8328	67.8668	34.6942	0.0637	12.4629	3.0034	15.4663	6.6703	2.7631	9.4334		6,408.3435	6,408.3435	1.9950		6,458.2186

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.0698	37.0156	7.1704	0.0937	2.0557	0.1432	2.1989	0.5633	0.1370	0.7003		10,136.4792	10,136.4792	0.7273		10,154.6618
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	0.0962	0.0693	0.9006	2.2000e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		219.3696	219.3696	7.5000e-003		219.5571
Total	1.1660	37.0849	8.0709	0.0959	2.2569	0.1449	2.4017	0.6166	0.1385	0.7552		10,355.8488	10,355.8488	0.7348		10,374.2188

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					5.6083	0.0000	5.6083	3.0016	0.0000	3.0016			0.0000			0.0000
Off-Road	1.7078	52.2295	35.7463	0.0637		1.2551	1.2551		1.2551	1.2551	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186
Total	1.7078	52.2295	35.7463	0.0637	5.6083	1.2551	6.8634	3.0016	1.2551	4.2567	0.0000	6,408.3435	6,408.3435	1.9950		6,458.2186

Mitigated Construction Off-Site

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

Hauling	1.0698	37.0156	7.1704	0.0937	2.0557	0.1432	2.1989	0.5633	0.1370	0.7003		10,136.47 92	10,136.47 92	0.7273		10,154.66 18
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	0.0962	0.0693	0.9006	2.2000e-003	0.2012	1.6100e-003	0.2028	0.0534	1.4900e-003	0.0549		219.3696	219.3696	7.5000e-003		219.5571
Total	1.1660	37.0849	8.0709	0.0959	2.2569	0.1449	2.4017	0.6166	0.1385	0.7552		10,355.84 88	10,355.84 88	0.7348		10,374.21 88

3.3 Curb Grading - 2018

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					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.6187	18.4109	12.7137	0.0227		0.8877	0.8877		0.8167	0.8167		2,282.454 2	2,282.454 2	0.7106		2,300.218 2
Total	1.6187	18.4109	12.7137	0.0227	0.9368	0.8877	1.8245	0.1012	0.8167	0.9179		2,282.454 2	2,282.454 2	0.7106		2,300.218 2

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.8320	19.9645	15.6527	0.0227		0.6133	0.6133		0.6133	0.6133	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2
Total	0.8320	19.9645	15.6527	0.0227	0.4216	0.6133	1.0348	0.0455	0.6133	0.6588	0.0000	2,282.454 2	2,282.454 2	0.7106		2,300.218 2

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

3.4 Fine Grading - 2018

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
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Category	lb/day										lb/day					
Fugitive Dust					0.9368	0.0000	0.9368	0.1012	0.0000	0.1012			0.0000			0.0000
Off-Road	1.4208	16.5233	10.8246	0.0196		0.7966	0.7966		0.7329	0.7329		1,969.909	1,969.909	0.6133		1,985.240
												0	0			5
Total	1.4208	16.5233	10.8246	0.0196	0.9368	0.7966	1.7334	0.1012	0.7329	0.8340		1,969.909	1,969.909	0.6133		1,985.240
												0	0			5

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

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					0.4216	0.0000	0.4216	0.0455	0.0000	0.0455			0.0000			0.0000
Off-Road	0.7280	17.5554	13.2977	0.0196		0.5588	0.5588		0.5588	0.5588	0.0000	1,969.909	1,969.909	0.6133		1,985.240
												0	0			5
Total	0.7280	17.5554	13.2977	0.0196	0.4216	0.5588	0.9804	0.0455	0.5588	0.6044	0.0000	1,969.909	1,969.909	0.6133		1,985.240
												0	0			5

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	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690
Total	0.0695	0.0501	0.6504	1.5900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0700e-003	0.0396		158.4336	158.4336	5.4100e-003		158.5690

3.5 Building Construction - 2018

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	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883
Total	2.6795	23.3900	17.5804	0.0269		1.4999	1.4999		1.4099	1.4099		2,620.9351	2,620.9351	0.6421		2,636.9883

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
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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	0.0000	0.0000
Vendor	0.4130	11.6633	2.9604	0.0249	0.6143	0.0853	0.6995	0.1768	0.0816	0.2584	2,659.2883	2,659.2883	0.1837		2,663.8802	
Worker	1.3142	0.9475	12.3075	0.0301	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496	2,998.0514	2,998.0514	0.1025		3,000.6131	
Total	1.7272	12.6108	15.2679	0.0551	3.3640	0.1073	3.4713	0.9061	0.1019	1.0080	5,657.3397	5,657.3397	0.2862		5,664.4933	

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,620.9351	2,620.9351	0.6421		2,636.9883

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	0.4130	11.6633	2.9604	0.0249	0.6143	0.0853	0.6995	0.1768	0.0816	0.2584		2,659.2883	2,659.2883	0.1837		2,663.8802
Worker	1.3142	0.9475	12.3075	0.0301	2.7497	0.0221	2.7718	0.7292	0.0203	0.7496		2,998.0514	2,998.0514	0.1025		3,000.6131

Total	1.7272	12.6108	15.2679	0.0551	3.3640	0.1073	3.4713	0.9061	0.1019	1.0080		5,657.339	5,657.339	0.2862		5,664.493
												7	7			3

3.5 Building Construction - 2019

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	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580	2,591.580	0.6313		2,607.363
												2	2			5
Total	2.3612	21.0788	17.1638	0.0269		1.2899	1.2899		1.2127	1.2127		2,591.580	2,591.580	0.6313		2,607.363
												2	2			5

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	0.3742	11.0200	2.7174	0.0247	0.6143	0.0731	0.6873	0.1768	0.0699	0.2467		2,635.316	2,635.316	0.1773		2,639.749
												8	8			6
Worker	1.1943	0.8358	11.0191	0.0292	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,903.689	2,903.689	0.0910		2,905.964
												2	2			4
Total	1.5685	11.8559	13.7366	0.0538	3.3640	0.0946	3.4586	0.9061	0.0897	0.9958		5,539.006	5,539.006	0.2683		5,545.714
												0	0			0

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	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635
Total	1.0809	23.5544	17.8738	0.0269		0.9036	0.9036		0.9036	0.9036	0.0000	2,591.5802	2,591.5802	0.6313		2,607.3635

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	0.3742	11.0200	2.7174	0.0247	0.6143	0.0731	0.6873	0.1768	0.0699	0.2467		2,635.3168	2,635.3168	0.1773		2,639.7496
Worker	1.1943	0.8358	11.0191	0.0292	2.7497	0.0215	2.7712	0.7292	0.0198	0.7491		2,903.6892	2,903.6892	0.0910		2,905.9644
Total	1.5685	11.8559	13.7366	0.0538	3.3640	0.0946	3.4586	0.9061	0.0897	0.9958		5,539.0060	5,539.0060	0.2683		5,545.7140

3.6 Paving - 2019

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	1.4544	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Total	2.1330	15.2441	14.6648	0.0228		0.8246	0.8246		0.7586	0.7586		2,257.0025	2,257.0025	0.7141		2,274.8548
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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	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930
Total	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,257.0025	2,257.0025	0.7141		2,274.8548

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	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930
Total	0.0728	0.0510	0.6719	1.7800e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		177.0542	177.0542	5.5500e-003		177.1930

3.6 Paving - 2020

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	1.3566	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	2.0351	14.0656	14.6521	0.0228		0.7528	0.7528		0.6926	0.6926		2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

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	0.9311	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841
Paving	0.6786					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6096	20.1146	17.2957	0.0228		0.6670	0.6670		0.6670	0.6670	0.0000	2,207.7334	2,207.7334	0.7140		2,225.5841

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	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991
Total	0.0673	0.0455	0.6114	1.7200e-003	0.1677	1.2800e-003	0.1689	0.0445	1.1800e-003	0.0456		171.5755	171.5755	4.9400e-003		171.6991

3.7 Architectural Coating - 2020

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2422	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928
Total	14.6755	1.6838	1.8314	2.9700e-003		0.1109	0.1109		0.1109	0.1109		281.4481	281.4481	0.0218		281.9928

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	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836
Total	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836

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	14.4333					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000

Off-Road	0.1139	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928
Total	14.5472	2.3524	1.8324	2.9700e-003		0.0951	0.0951		0.0951	0.0951	0.0000	281.4481	281.4481	0.0218		281.9928

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	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836
Total	0.2198	0.1486	1.9971	5.6300e-003	0.5477	4.1800e-003	0.5519	0.1453	3.8500e-003	0.1491		560.4798	560.4798	0.0162		560.8836

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121
Unmitigated	1.8612	8.3345	20.5160	0.0659	5.0344	0.0653	5.0997	1.3470	0.0613	1.4082		6,692.5959	6,692.5959	0.3526		6,701.4121

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Place of Worship	577.07	656.91	1110.63	1,417,656	1,417,656
Total	577.07	656.91	1,110.63	1,417,656	1,417,656

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	16.60	8.40	6.90	33.00	48.00	19.00	66	28	6
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Place of Worship	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Other Non-Asphalt Surfaces	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
Parking Lot	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955
City Park	0.550339	0.043800	0.200255	0.122233	0.016799	0.005871	0.020633	0.029727	0.002027	0.001932	0.004726	0.000704	0.000955

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive 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	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
NaturalGas Unmitigated	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

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					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4264.82	0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257
Total		0.0460	0.4181	0.3512	2.5100e-003		0.0318	0.0318		0.0318	0.0318		501.7441	501.7441	9.6200e-003	9.2000e-003	504.7257

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
City Park	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
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
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
Place of Worship	4.16377	0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664
Total		0.0449	0.4082	0.3429	2.4500e-003		0.0310	0.0310		0.0310	0.0310		489.8554	489.8554	9.3900e-003	8.9800e-003	492.7664

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	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Unmitigated	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

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	0.1582					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.1203					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.1400e-003	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241
Total	1.2836	5.0000e-004	0.0546	0.0000		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		0.1163	0.1163	3.1000e-004		0.1241

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation
