APPENDIX 4.2

AIR QUALITY AND HUMAN HEALTH RISK ASSESSMENT

APPENDIX 4.2.1

Air Quality and Health Risk Assessment Technical Report
for the Inglewood Transit Connector Project, RCH Group, September 2020

Air Quality and Heath Risk Assessment Technical Report for the Inglewood Transit Connector Project

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AIR QUALITY AND HEALTH RISK ASSESSMENT TECHNICAL REPORT

1.0 INTRODUCTION

This document presents the Air Quality and Health Risk Assessment Technical Report associated with the proposed Inglewood Transit Connector (proposed Project) in Inglewood, California.

To support the Inglewood Transit Connector Environmental Impact Report (EIR), three analyses were conducted: construction emissions inventories, dispersion modeling to support an ambient air quality standards analysis, and a health risk assessment (HRA). The ambient air quality standards analysis and HRA results are presented for both the Morning/Evening and Morning/Night construction scenarios (as described in the ITC Construction Scenario, June 2020). The analyses provide an estimate of the air emissions associated with the construction (off-road equipment along the proposed Project's alignment including the guideway, stations, and support facility sites, and off-site truck travel for the removal of debris and soils excavated during demolition and construction along nearby roadways) of the proposed Project. The potential air quality and health impacts that would result construction of the proposed Project have also been identified.

The supporting information, methodology, and assumptions used in the construction air emissions inventory, air quality dispersion modeling, HRA, and operational air emissions inventory are provided in:

- **Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions,**
- **Attachment B: Health Risk Assessment Methodology and Assumptions,**
- **Attachment C: Supplemental Health Impact Information,**
- **Attachment D: TIRCP GHG Benefits Calculator Tool Memo, and**
- **Attachment E: Operational Air Emissions Inventory.**

Air quality impacts were determined for United States Environmental Protection Agency (USEPA) criteria pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 micrometers (coarse particulate or PM_{10}), and particulate matter less than 2.5 micrometers (fine particulate or $PM_{2.5}$). The air quality analysis was developed based on the South Coast Air Quality Management District (SCAQMD) Modeling Guidance for AERMOD,[1] the USEPA *Guideline on Air Quality*

1 South Coast Air Quality Management District, SCAQMD Modeling Guidance for AERMOD, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

Models,[2] and the SCAQMD *Air Quality Handbook.*[3] The air quality analyses were conducted to determine the air quality impacts, in terms of ambient pollutant concentrations, using the significance levels identified by SCAQMD.[4]

The HRA focuses on impacts on existing residences and other sensitive populations from emissions of toxic air contaminants (TAC)[5] such as diesel particulate matter (DPM)[6] emissions from construction equipment and haul trucks associated with the proposed Project construction activities. The HRA was conducted to determine the health impacts, in terms of excess cancer risk and noncancer hazards, using the significance levels identified by the SCAQMD.[7] The HRA was prepared based on the California Office of Environmental Health Hazard Assessment (OEHHA)'s *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[8] and SCAQMD's *Risk Assessment Procedures for Rule 1401, 1401.1* and *212.*[9]

2.0 PROJECT OVERVIEW

The proposed Project would provide a transit connection from the Metro Crenshaw/LAX Line in Downtown Inglewood to the Los Angeles Stadium and Entertainment District (LASED) area and would be designed to integrate with local economic activity, transit-oriented development, and other initiatives in the area. Up to three stations are proposed at the following locations: (1) Market Street near Florence Avenue in the vicinity of the Metro Crenshaw/LAX Line Downtown Inglewood Station; (2) near The Forum at Prairie Avenue and Pincay Street; and (3) near the LASED at Hollywood Park at Prairie Avenue and Hardy Street

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2 United States Environmental Protection Agency, Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W, November 2005, Accessed July 6, 2020 at: https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf.

3 South Coast Air Quality Management District, CEQA Air Quality Handbook, Accessed July 6, 2020 at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

4 South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, April 2019, Accessed July 6, 2020 at: http://www.aqmd.gov/ceqa/hdbk.html.

5 Toxic air contaminants (TAC) are a broad class of compounds known to cause morbidity or mortality. TAC are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., gasoline service stations, dry cleaners). TAC are typically found in low concentrations, even near their source (e.g., diesel particulate matter near a freeway). Because chronic exposure can result in adverse health effects, TAC are regulated at the regional, state, and Federal level.

6 In 1998, the California Air Resources Board classified diesel particulate matter as a toxic air contaminant, citing its potential to cause cancer and other health problems. The United States Environmental Protection Agency concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects.

7 South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, April 2019, Accessed July 6, 2020 at: http://www.aqmd.gov/ceqa/hdbk.html.

8 Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015, Accessed July 6, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

9 South Coast Air Quality Management District, Risk Assessment Procedures for Rule 1401, 1401.1 and 212, September 1, 2017, Accessed July 6, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

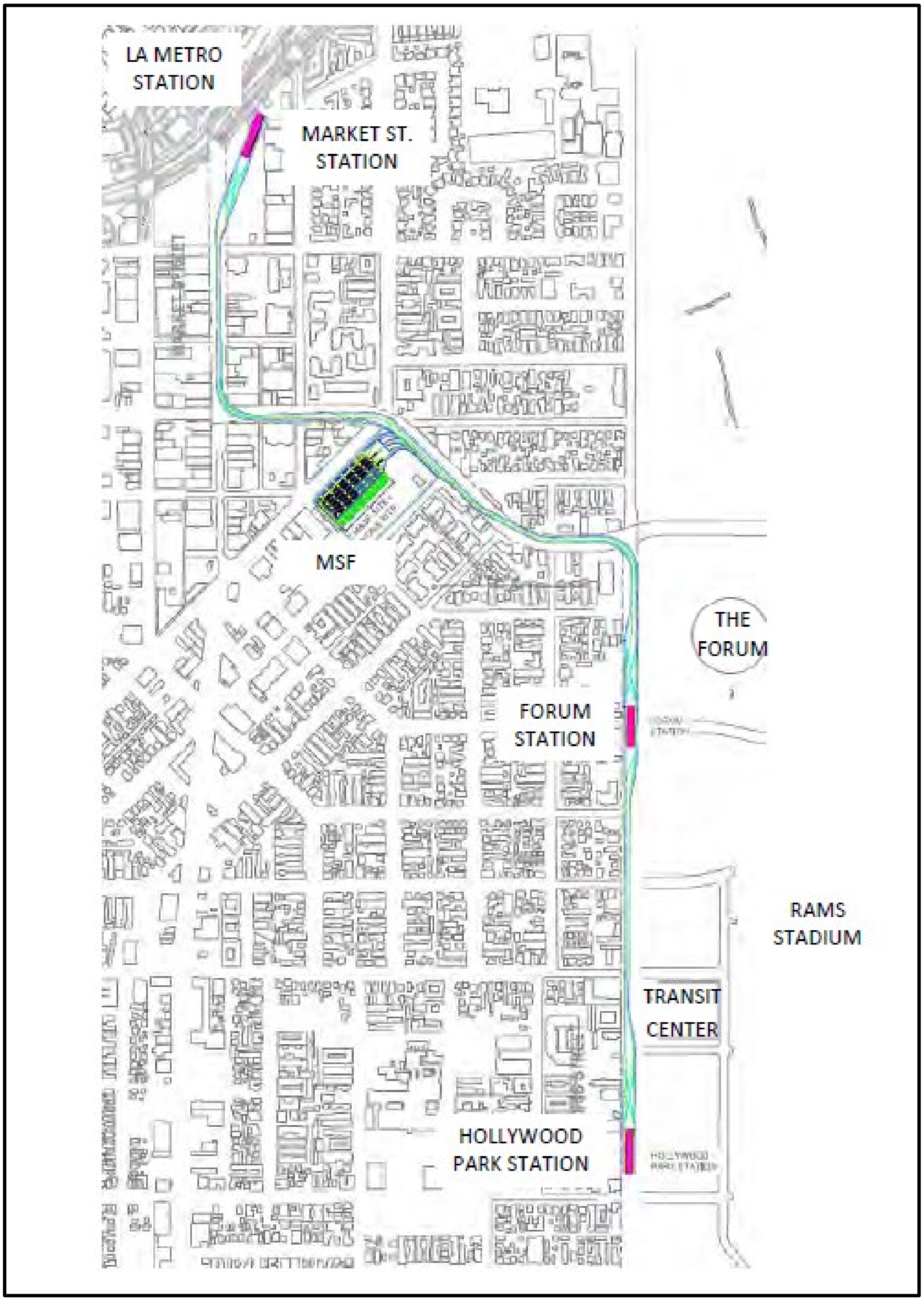
The proposed Project would consist of an elevated, automated people mover (APM) system with dual guideways to allow for continuous trains to travel in each direction. The Project extends from the intersection with the Metro Crenshaw/LAX Line north of downtown Inglewood, southwest for approximately a quarter of a mile to the intersection of Market Street and Regent Street, continue south on Market Street, then east on Manchester Boulevard, turning south on Prairie Avenue until its intersection with Hardy Street. Potential sites for Project support facilities are adjacent to the APM alignment. **Figure 1: Project Location Map** shows the Project location and surrounding area. Construction activities are expected to commence in the early 2022 and be completed in mid-2026.

The first phase would include the demolition of property acquisitions, building demolitions, utility relocations, cast-in-place (CIP) columns and slabs, and foundations for the initial construction of the Maintenance and Storage Facility (MSF). The first phase of construction would be the demolition of the commercial property for the Market Street/Florence Avenue Station at the existing commercial center at on the southeast corner of Market Street and Florence Avenue (approximately 137,525 SF), the existing commercial plaza at 500 and 510 Manchester Boulevard (the Vons store and gas station; approximately 76,604 SF), and the commercial building at 150 South Market Street on the southeast corner of Manchester and Market Street (approximately SF). Additional work in the area will commence in Phases 2 and 3 4for the completion of the aerial guideway construction of the APM and the three stations.

After the demolition, the remaining asphalt flatwork area within the lot will provide suitable space for construction staging including but not limited to space for equipment storage, material staging and storage, temporary concrete batch plants, if needed, contractor jobsite trailers, and on-site parking for construction staff throughout the entire project duration. The first phase of construction would occur between the early 2022 and the end of 2023 (including site preparation, staging, and cleanup).

The second phase would include enabling the construction sequence of the APM guideway along Prairie Avenue from the Hardy Street intersection to Manchester Boulevard. This phase includes demolition, utility relocations, foundations, CIP columns, straddle bents and the precast trapezoidal troughs and girders, and the construction of the MSF. The second phase of construction would occur between early 2023 and early 2025 (including site preparation, staging, and cleanup).

Figure 1 Project Location Map



The third phase would include enabling the construction sequence of the APM guideway along Manchester Boulevard from Prairie Avenue to Market Street, and Market Street from Manchester Boulevard to Florence Avenue. The work will include an above-ground pedestrian access walkway to the Metro Crenshaw/LAX Line's Downtown Inglewood Station, property acquisitions, building demolition, utility relocation, foundations, CIP columns, straddle bents and the precast trapezoidal troughs and girders. This phase includes site work completion to the MSF. The third phase of construction would occur between early 2024 and early 2026 (including site preparation, staging, and cleanup).

The fourth phase would include enabling the completion of the aerial construction elements including the installation of the APM system's operations, track work, station platform equipment and systems, completion of the traction power substations, testing and commissioning of the full APM system, completion of all surface construction activities including but not limited to all electrical, mechanical and utilities energizations. Additional work in the area will commence in Phase 4 for the APM system installation, testing and commissioning of the system. The fourth phase of construction would occur between late 2025 and mid-2026 (including site preparation, staging, and cleanup).

The following presents the schedule under which use of construction equipment and haul trucks would occur:

- **Phase 1 (Demolition):** April 15, 2022 – March 15, 2023
- **Phase 1 (MSF Construction):** February 2, 2023 – December 18, 2023
- **Phase 2:** March 24, 2023 – February 10, 2025
- **Phase 3:** February 14, 2024 – February 2, 2026
- **Phase 4:** October 31, 2025 – May 28, 2026

Construction activity would primarily occur over a 16 hour / day schedule with two shifts, both a morning shift from approximately 7:00 AM to 3:00 PM and an evening shift from approximately 3:00 PM to 11:00 PM, <u>or</u> a morning shift from approximately 7:00 AM to 3:00 PM and a night shift from approximately 11:00 PM to 7:00 AM. Other minimal construction work could occur during other hours at a reduced intensity. Delivery of construction materials would occur during the night shift, as would most lane closures. These shifts are intended to minimize impacts to daily commuter traffic and potential event traffic. Delivery of construction materials would occur during the night shift, as would most lane closures.

Pursuant to Section 5-41 of the Inglewood Municipal Code, construction between the hours of 8:00 PM. and 7:00 AM of the next day will require a permit from the Permits and License Committee of the City. The proposed Project would secure a permit(s) from the Permits and License Committee to allow for construction work activities to occur between the hours of 8:00 PM and 7:00 AM. The ambient air quality standards analysis and HRA results are presented for both the Morning/Evening and Morning/Night construction scenarios.

3.0 ANALYSIS METHODOLGY

Intermittent, short-term construction emissions that occur from activities such as demolition, site-grading, and concrete construction were evaluated. Regulatory models used to estimate air quality and health impacts include:

- California Air Resources Board's (CARB) EMFAC2017[10] emissions inventory model. EMFAC2017 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC2017 can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.
- CARB OFFROAD2017[11] emissions inventory model. OFFROAD is the latest emission inventory model that calculates emission inventories and emission rates for off-road equipment such as loaders, excavators, and off-road haul trucks operating in California. This model reflects CARB's current understanding of how equipment operates and how much they emit. OFFROAD can be used to show how California off-road equipment emissions have changed over time and are projected to change in the future.
- American Meteorological Society/USEPA Regulatory Model (AERMOD). AERMOD (Version 19191) is an atmospheric dispersion model which can simulate point, area, volume, and line emissions sources and has the capability to include simple, intermediate, and complex terrain along with meteorological conditions and multiple receptor locations.[12,13] AERMOD is commonly executed to yield 1-hour maximum and annual average concentrations (in parts per million or ppm and micrograms per cubic meter or µg/m3) at each receptor. AERMOD is used to estimate air concentrations at nearby receptors resulting from the activities associated with an air emission source (such as construction equipment).

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10 California Air Resources Board, EMFAC2017 User's Guide, March 1, 2018, Accessed July 6, 2020 at: https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.pdf and https://www.arb.ca.gov/emfac/2017/

11 California Air Resources Board, OFFROAD Instructions, Accessed July 6, 2020 at: http://www.arb.ca.gov/msprog/ordiesel/info_1085/oei_write_up.pdf and https://www.arb.ca.gov/orion/

12 United States Environmental Protection Agency Preferred/Recommended Models, AERMOD Modeling System, Accessed July 6, 2020 at: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#aermod.

13 Title 40 CFR Part 51, Revision to the Guideline on Air Quality Models: Adoption of a Preferred General Purpose (Flat and Complex Terrain) Dispersion Model and Other Revisions; Final Rule, Accessed July 6, 2020 at: http://www.epa.gov/ttn/scram/guidance/guide/appw_05.pdf.

4.0 EXISTING CONDITIONS

The proposed Project is located in Los Angeles County (County) within the South Coast Air Basin (SCAB or Basin). The Basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

Regional Meteorology

Air quality is affected by the rate, amount, and location of pollutant emissions and the associated meteorological conditions that influence pollutant movement and dispersal. Atmospheric conditions, including wind speed, wind direction, stability, and air temperature, in combination with local surface topography (i.e., geographic features such as mountains, valleys, and Pacific Ocean), determine the effect of air pollutant emissions on local air quality.

In general, Southern California has a warm, dry Mediterranean climate; hot in the summer and mild in the winter. Temperatures are cooler near the coast and hotter near inland areas. Most of the precipitation occurs as rain during the winter months, although rain showers are common during the summer in higher-elevation desert areas. Average annual precipitation is approximately 19 inches and temperatures reach 90 degrees Fahrenheit 100 days of the year on average. August daily highs average 95 degrees while daily lows average 64 degrees Fahrenheit. January typically exhibits average daily highs of 68 degrees and average daily lows of 43 degrees Fahrenheit. The predominant wind directions are either out of the northwest or southeast. Gusts greater than 15 miles per hour occur infrequently, less than two percent of the time.

Basin climate increases the potential to create air pollution problems. Air quality within the Basin generally rates from fair to poor. Sinking or subsiding air from the Pacific High-Pressure System creates a temperature inversion (known as a subsidence inversion), which acts as a lid to vertical movement of air masses and dispersion of pollutants. The lower bound of this inversion at any given time is known as the "mixing height." Restricted maximum mixing heights are 3,500 feet above sea level or less. Weak summertime pressure gradients suppress winds and further limit horizontal dispersion of pollutants in the mixed layer below the subsidence inversion. Poorly dispersed anthropogenic (human-made) emissions, combined with strong sunshine, lead to photochemical reactions that create ozone (O_3) in this surface layer. Daytime onshore air flow (i.e., sea breeze) and nighttime offshore flow (i.e., land breeze) are quite common in Southern California. The sea breeze helps to moderate daytime temperatures and leads to air pollutants being blown out to sea at night and returning to land the following day.

Nearby Sensitive Receptors

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. The CARB and SCAQMD has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience. Off-site workers are also considered sensitive receptors by the SCAQMD.

Local Air Quality

The SCAQMD maintains a network of monitoring stations within the Air Basin that monitor air quality and compliance with applicable ambient standards. The nearest air monitoring station which measures CO, NO_2, SO_2, and PM_{10} is located near Los Angeles International Airport (7201 West Westchester Parkway, Southwest Coastal LA County, Station 820), four miles to the west of the Project alignment. The nearest air monitoring station which measures $PM_{2.5}$ is located in central Los Angeles (1630 North Main Street, Central LA, Station 087), ten miles to the northeast of the Project alignment.

Table 1: **Air Quality Data Summary** summarizes the most recent three years of data (2017 through 2019) from the nearby air monitoring stations. The ozone standard was not exceeded. The State annual PM_{10} standard was exceeded in 2018 and the State 24-hour PM_{10} standard was exceeded in 2019. The State annual $PM_{2.5}$ standard was exceeded in 2018 and the State 24-hour $PM_{2.5}$ standard was exceeded in 2019. No other exceedances were observed at the nearby air monitoring stations in 2017 through 2019.

Table 1
Air Quality Data Summary (2017 - 2019)

Pollutant	Monitoring Data by Year			
	Standard [s]	***2017***	***2018***	***2019***
Ozone				
Highest 1 Hour Average (ppm)	0.09	0.086	0.074	0.082
Days over State Standard	—	0	0	0
Highest 8 Hour Average (ppm)	0.070	0.070	0.065	0.067
Days over National Standard	—	0	0	0
Days over State Standard	—	0	0	0
Nitrogen Dioxide				
Highest 1 Hour Average (ppm)	0.180/0.100	0.072	0.060	0.057
Days over State Standard	—	0	0	0
Annual Average (ppm)	0.030/0.053	0.009	0.009	0.010
Carbon Monoxide				
Highest 1 Hour Average (ppm)	20.0	2.1	1.8	1.8
Days over State Standard	—	0	0	0
Highest 8 Hour Average (ppm)	9.0	1.6	1.5	1.3
Days over State Standard	—	0	0	0
Particulate Matter (PM10)				
Highest 24 Hour Average (μg/m³)	50	46	45	**62**
Days over State Standard	—	0	0	2
State Annual Average (μg/m³)	20	19.8	**20.5**	19.2
Particulate Matter (PM2.5)				
Highest 24 Hour Average (μg/m³)	35	27.8	30.5	**43.5**
Days over National Standard	—	0	0	1
State Annual Average (μg/m³)	12	11.9	**12.6**	10.9

*Notes: Values in **bold** are in excess of at least one applicable standard.*
Generally, State and national standards are not to be exceeded more than once per year.
ppm = parts per million; μg/m³ = micrograms per cubic meter.
PM_{10} is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.
Source: South Coast Air Quality Management District, Annual Air Quality Summaries, Accessed July 7, 2020 at: http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year.

Adjusted Baseline

The Hollywood Park Specific Plan (HPSP) project is located adjacent to the project site. Related to air quality, the changes associated with the HPSP Adjusted Baseline, currently under development and/or operational, include operational air emissions associated with new uses in the HPSP area. The HPSP Adjusted Baseline would emit air pollutants associated with vehicle trips, maintenance operations, energy consumption from all of its operational land uses. Specifically, vehicle trips associated with activities at the HPSP began taking place during 2020 when the NFL Stadium began operations and uses are operating on the site and have an impact on local and regional air quality. Accordingly, the air pollutant emissions associated with the HPSP area were considered as part of an Adjusted Baseline.

Regional air emissions from the Proposed Project were assessed based on the incremental increase in emissions compared to existing conditions (that is, project-related), consistent with SCAQMD methodology. This methodology measures the incremental project contributions only and compares to project-level significance thresholds and so the Adjusted Baseline conditions are not relevant to the mass emissions threshold (**Section 8**).

The localized air quality analysis includes the Proposed Project impacts on local air quality concentrations of PM_{10} and $PM_{2.5}$. However, given the regional nonattainment status, the significance threshold is also only a project-related impact analysis. Thus, the Adjusted Baseline is not relevant to the PM_{10} and $PM_{2.5}$ localized air quality analysis for the Proposed Project (**Section 9**).

However, the localized air quality analysis includes the Proposed Project impacts on local air quality concentrations of CO, SO_2, and NO_2. The project-related concentrations would be added to the existing concentration from a nearby monitoring station. The Adjusted Baseline would emit air pollutants associated with vehicle trips, maintenance operations, energy consumption from all of its operational land uses concurrently during Proposed Project construction. Specifically, Adjusted Baseline activities would begin taking place during 2020 when the NFL Stadium begins operations and uses are operating on the site and would have an impact on local and regional air quality (which would not be accounted for in the existing monitoring data). Therefore, the project-related concentrations would be added to the existing concentration from a nearby monitoring station plus the concentrations associated with the Adjusted Baseline and the total would be compared to the CO, SO_2, and NO_2 NAAQS and CAAQS (**Section 9**).

The health impacts are also based on the maximum project-level incremental impact compared to a project-level significance thresholds (that is, does the project itself contributed significantly to the local health of nearby receptors). For this reason, the Adjusted Baseline is not relevant to the health impact analysis for the Proposed Project (**Section 10**).

Similarly, although the Adjusted Baseline has been constructed and in operation prior to start of construction of the Proposed Project, its potential impact on global emissions would not affect the threshold of significance or the impact analysis regarding GHG emissions from the Proposed Project (which is also based on project-level incremental contribution). For this reason, the Adjusted Baseline is not relevant to the GHG impact analysis for the Proposed Project (**Section 11**).

5.0 REGULATORY CONTEXT

USEPA has established the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act (CAA) for six common air pollutants known as "criteria pollutants."[14] These air pollutants consist of CO, NO_2, ozone (O_3), particulate matter (PM_{10} and $PM_{2.5}$), SO_2, and lead (Pb). An ambient air quality standard establishes the concentration above which the pollutant is known to cause adverse health effects to sensitive groups within the population such as children and the elderly. Ambient air quality standards are classified as either "primary" or "secondary" standards. Primary standards define levels of air quality, including an adequate margin of safety, necessary to protect the public health. Secondary ambient air quality standards define levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. The ambient air quality standards are shown in **Table 2: State and National Criteria Air Pollutant Standards, Effects, and Sources**.

Under the federal CAA, USEPA designate air basins where NAAQS are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there are inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." Areas where air pollution levels persistently exceed the State or national ambient air quality standards are designated "nonattainment." Federal nonattainment areas are further designated as marginal, moderate, serious, severe, or extreme as a function of deviation from standards. The South Coast Air Basin portion of the County is in nonattainment status for the federal ozone, lead, and $PM_{2.5}$; and in attainment for the federal CO, NO_2, SO_2, and PM_{10}.[15]

CARB manages air quality, regulates mobile emissions sources, and oversees the activities of county and regional Air Pollution Control Districts and Air Quality Management Districts. CARB regulates local air quality indirectly by establishing State ambient air quality standards and vehicle emissions and fuel standards; and by conducting research, planning and coordinating activities. California has adopted ambient standards (known as California Ambient Air Quality Standards or CAAQS) that are more stringent

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14 United States Environmental Protection Agency, Six Common Air Pollutants, Accessed July 6, 2020 at: https://www.epa.gov/criteria-air-pollutants.

15 United States Environmental Protection Agency, The Green Book Nonattainment Areas for Criteria Pollutants, Accessed July 6, 2020 at: https://www.epa.gov/green-book.

than the federal standards for some criteria air pollutants. Under the California Clean Air Act patterned after the CAA, areas have been designated as attainment or nonattainment with respect to the State standards. The South Coast Air Basin portion of the County is in nonattainment status for the State ozone, PM_{10}, and $PM_{2.5}$; and is in attainment status for CO, NO_2, and SO_2.[16, 17]

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. The South Coast Air Basin is a sub-region of the SCAQMD jurisdiction. While air quality in this area has improved, the Basin requires continued diligence to meet air quality standards. The SCAQMD has adopted a series of Air Quality Management Plans to meet the CAAQS and NAAQS. These plans require control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted emission sources and transportation control measures.

On March 3, 2017, the SCAQMD adopted the 2016 Air Quality Management Plan (AQMP) which includes strategies and measures needed to meet the NAAQS. The AQMP demonstrates attainment of the ozone NAAQS as well as the latest $PM_{2.5}$ standards.[18] The SCAQMD also adopts rules and regulations to implement portions of the AQMP. On October 1, 2015, the USEPA strengthened the NAAQS for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 ppb. The South Coast Air Basin is classified as an "extreme" nonattainment area and the Coachella Valley is classified as a "severe-15" nonattainment area for the 2015 Ozone NAAQS. The upcoming 2022 AQMP will be developed to address the requirements for meeting this standard. For the proposed Project, the relevant SCAQMD rules and regulations include:

- **Rules 201 and 203 (Permits to Construct and Operate**): These rules require that owners of applicable construction or operation equipment obtain written permits from the SCAQMD prior to construction and operation.

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16 California Air Resources Board, Area Designations Maps/State and National, Accessed July 6, 2020 at: http://www.arb.ca.gov/desig/adm/adm.htm.

17 South Coast Air Quality Management District, NAAQS and CAAQS Attainment Status for the South Coast Air Basin, February 2016, Accessed July 6, 2020 at: http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf.

18 South Coast Air Quality Management District, 2016 Air Quality Management Plan, March 1, 2017, Accessed July 6, 2020 at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.

Table 2

State and National Criteria Air Pollutant Standards, Effects, and Sources

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 Hour 8 Hour	0.09 ppm 0.07 ppm	– 0.070 ppm	High concentrations can directly affect lungs, causing irritation. Long–term exposure may cause damage to lung tissue.	Formed when reactive organic gases and nitrogen oxides react in the presence of sunlight. Major sources include on–road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide (CO)	1 Hour 8 Hour	20 ppm 9.0 ppm	35 ppm 9.0 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline–powered motor vehicles.
Nitrogen Dioxide (NO_2)	1 Hour Annual	0.18 ppm 0.03 ppm	0.10 ppm 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish–brown.	Motor vehicles, petroleum–refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO_2)	1 Hour 3 Hour 24 Hour Annual	0.25 ppm – 0.04 ppm –	0.075 ppm 0.5 ppm 0.14 ppm 0.030 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM_{10})	24 Hour Annual	50 µg/m^3 20 µg/m^3	150 µg/m^3 –	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume–producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind–raised dust and ocean sprays).
Fine Particulate Matter ($PM_{2.5}$)	24 Hour Annual	– 12 µg/m^3	35.0 µg/m^3 12.0 µg/m^3	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including nitrogen oxides, sulfur oxides, and organics.
Lead (Pb)	Month Rolling 3 Month	1.5 µg/m^3 –	– 0.15 µg/m^3	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present sources: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.

Source: Air Quality Standards, https://ww2.arb.ca.gov/resources/background-air-quality-standards.

- **Rule 402 (Nuisance):** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
- **Rule 403 (Fugitive Dust):** This rule requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM10 emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust.
- **Rule 1113 (Architectural Coatings):** This rule requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- **Rule 2202 (Employee Commute Reduction Program Guidelines)**: This rule is designed to assist employers in understanding the development and implementation requirements of the Employee Commute Reduction Program (ECRP) at their worksites. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving and maintaining the employers' designated average vehicle ridership targets.

A fugitive dust control program pursuant to the provisions of SCAQMD Rules 402 and 403 shall be implemented. This program shall include, but not be limited to the following:

- Prior to start of the initial on-site construction, the City Engineer shall confirm that the proposed construction plan is in compliance with SCAQMD Rule 403, fugitive dust shall be controlled by the applicable best available control measures listed in Table 1 of Rule 403.
- Water or a stabilizing agent shall be applied at least three times daily, preferably in the mid-morning, afternoon, and after work is done for the day, to exposed surfaces including graded and disturbed areas in sufficient quantity to prevent generation of dust plumes.
- Track-out shall not extend 25 feet or more from an active operation and track-out shall be removed at the conclusion of each workday. The contractor shall use a gravel apron, 25 feet long by road width, or a pipe-grid track-out control device to reduce mud/dirt track-out from active operations and unpaved truck exit routes.
- A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the Project alignment.
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered (e.g., with fabric tarps or other enclosures that would reduce fugitive dust emissions) and maintain a freeboard height of 12 inches, in accordance with California Vehicle Code Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

- Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.
- On-site stockpiles shall be covered or watered at least twice per day.

Criteria Air Pollutants

The following provides a brief summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants and air toxics.

Ozone

Ozone is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving volatile organic compounds (VOC) and NO_x. VOC and NO_x are known as precursor compounds for O_3. Substantial ozone production generally requires O_3 precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. O_3 is a regional air pollutant because it is not emitted directly by sources but is formed downwind of sources of VOC and NO_x under the influence of wind and sunlight. O_3 concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional air subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds.

Carbon Monoxide

CO is a nonreactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground–level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity, resulting in reduced levels of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California, but in more recent years, CO measurements and modeling are not a priority in most California air districts due to the retirement of older vehicles, fewer emissions from new vehicles, and improvements to fuels.

Nitrogen Oxides

When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and NO_2 are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO_2 and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO_2 can lead to respiratory illnesses such as bronchitis and pneumonia.

Volatile Organic Compounds

VOC means any compound of carbon, excluding carbon monoxide, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. VOC are any reactive compounds of carbon, excluding methane, CO, CO_2, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds.

VOC include a variety of chemicals, some of which may have short- and long-term adverse health effects. VOC are emitted by a wide array of products numbering in the thousands. Examples include paints and lacquers, paint strippers, cleaning supplies, building materials and furnishings, as well as fuel storage and use.

VOC can cause eye, nose, and throat irritation; headaches, loss of coordination, nausea; and damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics.

Particulate Matter

PM_{10} and $PM_{2.5}$ consist of airborne particles that measure 10 micrometers or less in diameter and 2.5 micrometers or less in diameter, respectively. PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects. Particulate matter in the atmosphere results from many kinds of dust- and fume-producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition, construction activities and mining, are more local in nature, while others such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility. Dust comprised of large particles (diameter greater than 10 micrometers) settles out rapidly and is easily filtered by human breathing passages. This dust is of concern more as a soiling nuisance rather than a health hazard. The remaining fractions, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the federal and California ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus penetrate to the deepest parts of the lungs.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health. The CARB has estimated that achieving the ambient air quality standards for PM_{10} could reduce premature mortality rates by 6,500 cases per year.

Sulfur Dioxide

SO_2 is a combustion product of sulfur or sulfur–containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain.

Lead

Ambient lead concentrations meet both the federal and State standards in the Project area. Lead has a range of adverse neurotoxin health effects and was released into the atmosphere via leaded gasoline products. The phase-out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead. Metal processing is currently the primary source of lead emissions in the SCAB. The highest concentrations of lead in air are generally found near lead smelters and general aviation airports; where piston aircraft use leaded fuel. Other stationary sources that generate lead emissions include waste incinerators, utilities, and lead-acid battery manufacturers. The maximum lead concentrations recorded in the Project area is below federal and California standards. Notably, diesel fuel does not contain lead emissions and gasoline fuel is unleaded.

Toxic Air Contaminants

Non-criteria air pollutants or toxic air contaminants (TAC) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TAC include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TAC includes approximately 240 compounds, including particulate emissions from diesel-fueled engines and asbestos.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines as TAC. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*[19] and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines.*[20] The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and 85 percent in 2020.[21] The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solid and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon; heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei particles of diameters below 0.04 micrometers (µm) and their agglomerates of diameters up to 1 µm. DPM is a major factor in total TAC exposure in California.

California State law defines TAC as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TAC under California law; they include the 187 (federal) hazardous air pollutants (HAP) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources but AB 2588 does not regulate air toxics emissions. TAC emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures.

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19 California Air Resources Board, Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, October 2000. Accessed July 6, 2020 at http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

20 California Air Resources Board, Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines, October 2000. Accessed July 6, 2020 at https://www.arb.ca.gov/diesel/documents/rmgFinal.pdf.

21 Generally, there was a 60 percent reduction in health risks from 2005 through 2015, based on the SCAQMD Multiple Air Toxics Exposure Study.

In 2005, the SCAQMD conducted a comprehensive study on air toxics in the SCAB called the Multiple Air Toxics Exposure Study (MATES-III). The monitoring program measured more than 30 air pollutants, including both gas and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the average cancer risk in the region from carcinogenic air pollutants ranges from approximately 870 in a million to 1,400 in a million, with an average regional risk of approximately 1,200 in a million.[22]

In 2015, the Multiple Air Toxics Exposure Study IV (MATES IV) is a follow up to previous air toxics studies in the Basin. The MATES IV Study includes an updated emissions inventory of toxic air contaminants and a modeling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from particulate exposures. An additional focus of MATES IV is the inclusion of measurements of ultrafine particle concentrations. Results for MATES-IV show that trends in monitored levels air toxics continue to decline, modeled exposures and risks were substantially lower compared to MATES III (approximately 60 percent decrease), and DPM remains the largest component of air toxics estimated risk, at approximately 68 percent of the South Coast Air Basin wide cancer risk of 418 per million persons, ranging from 320 to 480 per million persons. Based on data within MATES-IV, the proposed Project is within an area with an estimated cancer risk of 1,001 to 1,200 per million persons.[23]

6.0 THRESHOLDS OF SIGNIFICANCE

Because of the SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies in the SCAQMD's *CEQA Air Quality Handbook* are used in evaluating project impacts for construction, operations, and air toxics.[24] These significance thresholds, under which the proposed Project was evaluated, are described within the following section. The proposed Project would result in a significant construction air quality impact if the Project exceeds the concentration significance thresholds set forth in **Table 3: Ambient Air Quality Significance Thresholds for Criteria Pollutants**. Per SCAQMD guidance, the evaluated concentrations of CO, NO_2, and SO_2 included both the Project contribution plus background concentrations. The total concentration is then compared to the significance thresholds. For CO, NO_2, and SO_2, these significance thresholds are reflective of the CAAQS and NAAQS. Background

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22 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-III) in the South Coast Air Basin, September 2008, Accessed July 6, 2020 at: https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iii.

23 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-IV) in the South Coast Air Basin, May 1, 2015, Accessed July 6, 2020 at: http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv.

24 South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, April 2019, Accessed July 6, 2020 at: http://www.aqmd.gov/ceqa/hdbk.html.

concentration were based on existing air monitoring stations near the Project alignment and represent existing air emissions sources within the Air Basin. Further information on the background concentrations is provided in **Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions**. Per SCAQMD guidance, the Project contribution of PM_{10} and $PM_{2.5}$ is compared to the significance thresholds without adding background concentrations.

The proposed Project would also result in a significant health impact if the carcinogenic or toxic air contaminants individually or cumulatively are equal to or exceed the maximum individual cancer risk of ten in one million persons or an chronic and acute hazard index of 1.0 or the cancer burden of 0.5 excess cancer cases (in areas greater than or equal to one in one million).[25]

Table 3
Ambient Air Quality Significance Thresholds for Criteria Pollutants

Pollutant	Averaging Period	Pollutant Concentration Threshold
CO	1-hour /8-hour	SCAQMD is in attainment (federal and State); project is significant if it causes or contributes to an exceedance of the attainment standards of 20 ppm (1-hour) and 9 ppm (8-hour)
NO_2	1-hour	SCAQMD is in attainment (federal and State); project is significant if it causes or contributes to an exceedance of the following attainment standard 0.18 ppm (State) and 0.10 ppm (federal)
	Annual	0.03 ppm (state) and 0.0534 ppm (federal)
PM_{10}	24-hour	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operation)
	Annual	1.0 µg/m^3 (construction and operation)
$PM_{2.5}$	24-hour	10.4 µg/m^3 (construction) and 2.5 µg/m^3 (operation)
SO_2	1-hour	0.25 ppm (State) and 0.075 ppm (federal)
	24-hour	0.04 ppm (State)
Lead	30-day Average	1.5 µg/m^3 (State)
	Rolling 3-month Average	0.15 µg/m^3 (federal)

Source: South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, April 2019, Accessed July 6, 2020 at: http://www.aqmd.gov/ceqa/hdbk.html

25 Cancer burden is the total cancer risk for all receptors divided by the estimated population within the modeling domain.

7.0 MITIGATION MEASURES

The following mitigation measures describe a number of specific actions to reduce construction NOx emissions from on-road vehicles and off-road equipment used in construction activities. **MM AQ-1** through **MM AQ-4** were incorporated into the post-mitigation modeling (see **Sections 8, 9, and 10** for unmitigated and mitigated air quality and health risk assessment results). However, the extent to which the remaining measures would reduce air quality impacts is not quantifiable. Nevertheless, the following mitigation measures are required to reduce the air quality and health impacts for cumulatively considerable construction emissions of ozone precursor of NOx:

MM AQ-1: Construction contractors shall, at a minimum, use equipment that meets the USEPA's Final Tier 4 emissions standards for off-road diesel-powered construction equipment with 50 horsepower (hp) or greater, for all phases of construction activity, unless it can be demonstrated to the City of Inglewood Planning Division with substantial evidence that such equipment is not available. To ensure that Final Tier 4 construction equipment or better shall be used during the proposed Project's construction, the City of Inglewood shall include this requirement in applicable bid documents, purchase orders, and contracts. The City of Inglewood shall also require periodic reporting and provision of written construction documents by construction contractor(s) and conduct regular inspections to the maximum extent feasible to ensure and enforce compliance.

Such equipment will be outfitted with Best Available Control Technology devices including a CARB certified Level 3 Diesel Particulate Filters (DPF). Level 3 DPF are capable of achieving at least 85 percent reduction in particulate matter emissions. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by Final Tier 4 emissions standards for a similarly sized engine, as defined by the CARB's regulations. Successful contractors must demonstrate the ability to supply the compliant construction equipment for use prior to any ground disturbing and construction activities. The proposed Project representative will make available to the lead agency and SCAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used during construction. The inventory will include the horsepower rating, engine production year, and certification of the specified Tier standard. A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit shall be maintained on site at the time of mobilization for each applicable piece of construction equipment.

If any of the following circumstances listed below exist and the Contractor provides written documentation consistent with project contract requirements, the Contractor shall submit an alternative compliance plan that identifies operational changes or other strategies that can reduce a comparable level of NOx emissions as Tier 4-certified engines during construction activities.

- The Contractor does not have the required type of off-road construction equipment within its current available inventory as to a particular vehicle or equipment by leasing or short-term rent, and the Contractor has attempted in good faith and with due diligence to lease or short-term rent the equipment or vehicle, but the equipment or vehicle is not available for lease or short-term rent within 120 miles of the Project alignment, and the Contractor has submitted documentation to the City of Inglewood showing that the requirements of this exception provision apply.
- The Contractor has been awarded funding by SCAQMD or another agency that would provide some or all of the cost to retrofit, repower, or purchase a piece of equipment or vehicle, but the funding has not yet been provided due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and with due diligence to lease or short-term rent the equipment or vehicle that would comply, but the equipment or vehicle is not available for lease or short-term rent within 120 miles of the Project alignment, and the Contractor has submitted documentation to the City of Inglewood showing that the requirements of this exception provision apply.
- Contractor has ordered equipment or vehicle to be used on the construction project in compliance at least 60 days before that equipment or vehicle is needed at the Project alignment, but that equipment or vehicle has not yet arrived due to circumstances beyond the Contractor's control, and the Contractor has attempted in good faith and with due diligence to lease or short-term rent the equipment or vehicle that would comply, but the equipment or vehicle is not available for lease or short-term rent within 120 miles of the project site, and the Contractor has submitted documentation to the City of Inglewood showing that the requirements of this exception provision apply.
- Construction-related diesel equipment or vehicle will be used on the Project alignment for fewer than 20 calendar days per calendar year. The Contractor shall not consecutively use different equipment or vehicles that perform the same or a

substantially similar function in an attempt to use this exception to circumvent the intent of this mitigation measure.

- Documentation of good faith efforts and due diligence regarding the previous exceptions shall include written record(s) of inquiries (i.e., phone logs) to at least three leasing/rental companies that provide construction on-road trucks and off-road equipment, documenting the availability/unavailability of the required types of truck/equipment. The City of Inglewood will, from time-to-time, conduct independent audit of the availability of such vehicles and equipment for lease/rent within a 120 mile radius of the project site, which may be used in reviewing the acceptability of the Contractor's good faith efforts and due diligence.

MM AQ-2: Equipment such as concrete/industrial saws, pumps, aerial lifts, light stands, air compressors, and forklifts shall be electric or alternative-fueled (i.e., non-diesel). Pole power shall be utilized at the earliest feasible point in time, and shall be used to the maximum extent feasible in lieu of generators. If stationary construction equipment, such as diesel-powered generators, must be operated continuously, such equipment must be Final Tier 4 construction equipment or better and located at least 100 feet from air quality sensitive land uses (e.g., residences, schools, childcare centers, hospitals, parks, or similar uses), whenever possible.

MM AQ-3: At a minimum, require that construction vendors, contractors, and/or haul truck operators commit to using 2010 model year trucks (e.g., material delivery trucks and soil import/export with a gross vehicle weight rating of at least 14,001 pounds), or best commercially available equipment, that meet CARB's 2010 engine emissions standards at 0.01 g/hp-hour of particulate matter and 0.20 g/hp-hour of NOx emissions or newer, cleaner trucks, unless the Contractor provides written documentation consistent with project contract requirements the circumstances identified in MM AQ-1 exist and the Contractor submits an alternative compliance plan. Operators shall maintain records of all trucks associated with Project construction to document that each truck used meets these emission standards. The City of Inglewood shall include this requirement in applicable bid documents, purchase orders, and contracts. Operators shall maintain records of all trucks associated with Project construction to document that each truck used meets these emission standards and make the records available for inspection.

MM AQ-4: Require the use of electric or alternatively fueled (e.g., natural gas) sweepers with HEPA filters.

MM AQ-5: A publicly visible sign shall be posted with the telephone number and person to contact at the City of Inglewood regarding dust complaints. This person shall respond and take corrective action with 24 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

MM AQ-6: All roadways, driveways, sidewalks, etc., being installed as part of the project should be completed as soon as practical; in addition, building pads should be laid as soon as practical after grading.

MM AQ-7: To the extent feasible, allow construction employees to commute during off-peak hours.

MM AQ-8: Make access available for on-site lunch trucks during construction, as feasible, to minimize off-site construction employee vehicle trips.

MM AQ-9: Every effort shall be made to utilize grid-based electric power at any construction site, where feasible. Grid-based power can be from a direct hookup or a tie into electricity from power poles.

MM AQ-10: Contractors shall maintain and operate construction equipment to minimize exhaust emissions. All construction equipment must be properly tuned and maintained in accordance with the manufacturer's specifications and documentation demonstrating proper maintenance, in accordance with the manufacturer's specifications, shall be maintained on site. Tampering with construction equipment to increase horsepower or to defeat emission control devices must be prohibited.

MM AQ-11: Enter into applicable bid documents, purchase orders, and contracts to notify all construction vendors, contractors, and/or haul truck operators that vehicle and construction equipment idling time will be limited to no longer than five minutes, consistent with the CARB's policy. For any idling that is expected to take longer than five minutes, the engine should be shut off. Notify construction vendors, contractors, and/or haul truck operators of these idling requirements at the time that the purchase order is issued and again when vehicles enter the Project alignment. To further ensure that drivers understand the vehicle idling requirement, post signs at the proposed Project entry gates and throughout the Project alignment, where appropriate, stating that idling longer than five minutes is not permitted.

In addition to these mitigation measures, the following recommendations are provided for certain school/daycare centers:

- Indoor air filtration systems should meet or exceed an efficiency standard of Minimum Efficiency Reporting Value (MERV) 13 or higher (i.e., a filter efficiency of approximately 80 percent of fine particulates in the range of 1.0 to 3.0 micrometers) to limit DPM exposure at school/daycare sensitive receptors in which the health impacts using **MM AQ-1** through **MM AQ-11** potentially exceed the significance thresholds. MERV-13 air filters may reduce concentrations of DPM from mobile sources by approximately 53 percent and cancer risk by 42 percent. An ongoing maintenance plan for building air filtration systems would be implemented. Ventilation systems should meet the following minimal design standards:
  - A MERV-13, or higher, rating that represents a minimum of 80 percent efficiency to capture fine particulates;
  - At least one air exchange(s) per hour of fresh outside filtered air;
  - At least four air exchange(s) / hour recirculation; and
  - At least 0.25 air exchange(s) per hour in unfiltered infiltration; and[26]
  - Where appropriate, install passive electrostatic filtering systems, especially those with low air velocities (i.e., one mph).

The presence of a noise barrier often leads to pollutant concentration reductions behind the barrier during meteorological conditions with winds directionally from the project site. $PM_{2.5}$ concentrations generally decrease between 15 and 50 percent behind a noise barrier. However, conditions may also occur when pollutant concentrations are greater behind the barrier than when no barrier is present. These results imply that the presence of a noise barrier can lead to higher pollutant concentrations during certain wind conditions.[27]

8.0 CONSTRUCTION EMISSIONS INVENTORY

The proposed Project would consist of an elevated APM system with dual guideways to allow for continuous trains to travel in each direction. The proposed Project is designed as an aerial APM system that runs approximately 1.8 miles along Market Street between Florence Avenue and Manchester Boulevard, where it transitions east along Manchester Boulevard for approximately half a mile to Prairie Avenue for approximately one mile.

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26 San Francisco Department of Public Health. *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review,* May 2008, Accessed July 7, 2020 at: https://www.gsweventcenter.com/Draft_SEIR_References/2008_0501_SFDPH.pdf

27 Atmospheric Environment. *Impacts of Noise Barriers on Near-road Air Quality,* May 2008, Accessed August 25, 2020 at: https://escholarship.org/content/qt1ch1q6wx/qt1ch1q6wx.pdf.

Construction activities are expected to commence in early 2022 and be completed in mid-2026. Construction activity would primarily occur over a 24 hour per day schedule with three shifts as follows:

- a morning shift from approximately 7:00 AM to 3:00 PM (Morning Shift), and
- an evening shift from approximately 3:00 PM to 11:00 PM (Evening Shift), or
- a night shift from approximately 11:00 PM to 7:00 AM (Night Shift).

Combinations of these shifts would be referred to "Moring/Night" or "Night/ Morning." **Section 2** provides additional Project information. The AAQS analysis and HRA results are presented for both the Morning/Evening and Morning/Night construction scenarios.

Intermittent (short-term) construction emissions that occur from activities related to the proposed Project were evaluated. The air quality analysis focuses on daily emissions from construction (mobile, area, stationary, and fugitive sources) activities and compares the emission estimates to thresholds of significance. The air quality analysis was developed based on the SCAQMD *Air Quality Handbook.*[28] The air quality analysis was conducted to determine the air quality impacts, using the significance levels identified by the SCAQMD.[29] Assumption for the air construction emission estimates were based on the Inglewood Transit Connector: Construction Scenarios for the Environmental Impact Report by Pacifica Services (dated June 27, 2020).

Table 4: Daily Unmitigated Construction Emissions for Proposed Project shows the estimated daily unmitigated emissions for construction related emissions (including combustion engine and fugitive dust emissions) for the proposed Project. The grand total construction emissions as well as the contribution from employee vehicle trips, pickup/delivery trucks, haul trucks, and off-road equipment are presented. The off-road equipment represents the largest contribution to the total construction emissions. The daily unmitigated NO_x construction emissions would potentially exceed the SCAQMD thresholds of significance during 2022 through 2025. Therefore, appropriate mitigation measures (such as requiring USEPA Tier 4 emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower) was evaluated in conjunction with the ambient air quality analysis (**Section 9**) and the health risk assessment (**Section 10**).

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28 South Coast Air Quality Management District, CEQA Air Quality Handbook, Accessed July 6 ,2020 at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

29 South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, April 2019, Accessed July 6, 2020 at: http://www.aqmd.gov/ceqa/hdbk.html.

Table 4
Daily Unmitigated Construction Emissions (pounds) for Proposed Project

Construction Year	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Grand Total						
2022	10.2	107	**128**	7.76	5.15	0.50
2023	17.3	203	**191**	12.5	8.23	0.88
2024	17.0	198	**179**	11.4	7.63	0.82
2025	18.5	218	**186**	11.5	7.74	0.86
2026	10.6	124	100	6.13	4.17	0.46
Significance Thresholds	75	550	100	150	55	150
Employee Vehicles						
2022	0.18	5.76	0.56	0.31	0.13	0.02
2023	0.42	13.1	1.22	0.76	0.32	0.05
2024	0.30	9.22	0.82	0.57	0.24	0.03
2025	0.42	12.8	1.09	0.84	0.35	0.05
2026	0.13	3.89	0.32	0.27	0.11	0.01
Pickup/Delivery Trucks						
2022	0.34	8.36	4.23	0.69	0.30	0.05
2023	0.70	16.8	8.41	1.54	0.68	0.10
2024	0.73	17.6	8.28	1.73	0.76	0.11
2025	0.53	13.5	5.71	1.39	0.60	0.09
2026	0.49	12.5	5.04	1.39	0.60	0.09
Haul Trucks						
2022	1.29	4.58	48.6	3.66	1.86	0.19
2023	0.35	2.53	44.3	4.64	2.09	0.26
2024	0.28	2.02	35.2	3.67	1.65	0.21
2025	0.27	2.04	35.4	3.73	1.67	0.21
2026	0.10	0.77	13.3	1.41	0.63	0.08
Off-road Equipment						
2022	8.38	88.1	74.4	3.10	2.85	0.24
2023	15.8	171	**137**	5.59	5.15	0.47
2024	15.7	169	**135**	5.41	4.98	0.46
2025	17.3	190	**144**	5.55	5.11	0.51
2026	9.88	107	81.2	3.07	2.82	0.29

*Note: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

The off-road equipment represents the largest contribution to the total construction emissions; approximately 91 percent of the VOC emissions, approximately 85 percent of the CO emissions, approximately 73 percent of the NO_x emissions, approximately 46 percent of the PM_{10} emissions, approximately 64 percent of the $PM_{2.5}$ emissions, and approximately 56 percent of the SO_2 emissions. Cranes, backhoes/loaders, air compressors, and compactors contribute the greatest amounts to the daily total NO_x emissions.

Table 5: Daily Mitigated Construction Emissions for Proposed Project shows the estimated daily mitigated emissions for construction related emissions (including combustion engine and fugitive dust emissions) for the proposed Project.

Table 5
Daily Mitigated Construction Emissions (pounds) for Proposed Project

Construction Year	VOC	CO	NOx	PM_{10}	$PM_{2.5}$	SO_2
Grand Total						
2022	7.07	223	95.1	5.31	2.95	0.43
2023	11.6	443	**141**	8.21	4.35	0.75
2024	11.2	443	**138**	7.21	3.88	0.68
2025	11.7	478	**149**	7.23	3.90	0.68
2026	6.26	260	80.2	3.72	2.01	0.35
Significance Thresholds	75	550	100	150	55	150
Employee Vehicles						
2022	0.18	5.76	0.56	0.31	0.13	0.02
2023	0.42	13.1	1.22	0.76	0.32	0.05
2024	0.30	9.22	0.82	0.57	0.24	0.03
2025	0.42	12.8	1.09	0.84	0.35	0.05
2026	0.13	3.89	0.32	0.27	0.11	0.01
Pickup/Delivery Trucks						
2022	0.34	8.36	4.23	0.69	0.30	0.05
2023	0.70	16.8	8.41	1.54	0.68	0.10
2024	0.73	17.6	8.28	1.73	0.76	0.11
2025	0.53	13.5	5.71	1.39	0.60	0.09
2026	0.49	12.5	5.04	1.39	0.60	0.09
Haul Trucks						
2022	1.29	4.58	48.6	3.66	1.86	0.19
2023	0.35	2.53	44.3	4.64	2.09	0.26
2024	0.28	2.02	35.2	3.67	1.65	0.21
2025	0.27	2.04	35.4	3.73	1.67	0.21
2026	0.10	0.77	13.3	1.41	0.63	0.08
Off-road Equipment						
2022	5.25	205	41.7	0.65	0.65	0.17
2023	10.1	411	86.7	1.26	1.26	0.33
2024	9.93	415	93.2	1.23	1.23	0.32
2025	10.4	450	**107**	1.28	1.27	0.33
2026	5.54	243	61.6	0.66	0.66	0.17

*Note: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

The total construction emissions including the contribution from employee vehicle trips, pickup/delivery trucks, haul trucks, and off-road equipment are presented. The daily mitigated NO_x construction emissions would potentially exceed the SCAQMD thresholds of significance during 2023 through 2025. However, as presented in **Section 9**, the ambient air concentration impacts due to Project construction would be less than significant at all nearby receptors for all pollutants. Therefore, although the daily emissions for NO_x would potentially exceed the SCAQMD significance thresholds, the resultant air concentrations would not likely exceed the SCAQMD significance thresholds.

The mitigation measures represent a reduction of approximately 23 percent of the NO_x emissions, approximately 36 percent of the PM_{10} emissions, and approximately 48 percent of the $PM_{2.5}$ emissions.

Air Emission Calculation Methodology

Air emission sources include combustion exhaust from on-road vehicles such as construction worker vehicles, pickup/delivery trucks, haul trucks, and construction equipment such as backhoes, loaders, and graders.

On-Road Vehicles

Vehicular emissions were computed using the CARB's emission factor model, EMFAC, to estimate on-road emissions. Construction worker trips were modeled using the light-duty auto/truck classification. Construction worker trips are a composite of gasoline and diesel vehicles. Foreman trucks used on-site were modeled as gasoline and diesel light heavy-duty trucks. Haul trucks were modeled using the diesel combination long-haul truck classification, which is a heavy-heavy duty truck emission factor for public vehicles. Construction worker vehicles usage were assumed to be 12 miles per one way trip per day.[30] Distance traveled is assumed to be 20 miles per one way trip per day for dump trucks, delivery trucks, and concrete trucks.[31] Distance traveled is assumed to be 29 miles per one way trip per day for asphalt removal trucks, asphalt pavement trucks, and soil spoils dump trucks.[32] A conservative estimate of 10 percent of the total truck trips within each phase were assumed to occur on any given day. The usage factor for haul trucks is approximately 25 percent. Paved road dust, brake wear, and tire wear particulate emissions were also accounted for and included in the analysis using EMFAC emission factors and methodologies. For haul trucks, exhaust particulate emissions is approximately 14 percent of the total particulate emissions.

Criteria pollutant emissions associated with on-road vehicles were calculated by combining the activity information with emissions factors, in grams per mile, derived using the EMFAC emissions model. Emissions calculations were based on **Equation 1**. The EMFAC emissions factors are summarized on **Table 6: Emissions Factors (g/mile) for On-Road Vehicles** for employee vehicles, pickup trucks, delivery trucks, and haul trucks for 2022 through 2026.

Equation 1

*Emission Rate (tons/year) = Emission Factor (gram/mile) * trips per day * miles per trip * days/year * (453.59/2000 tons/gram)*

30 California Emissions Estimator Model (CalEEMod) Version 2016.3.2

31 The maximum distance from four supporting facilities: CalPortland, Catalina Pacifica Concrete, Cemex-Inglewood, and Robertson's Read Mix.

32 The distance to Whittier Landfill.

Table 6
Emissions Factors (g/mile) for On-Road Vehicles

Vehicle Type	VOC	CO	NO_x	CO_2	CH_4	N_2O	PM_{10}	$PM_{2.5}$	SO_2
Calendar Year 2022									
Employee	0.03	0.89	0.09	299	0.01	0.01	0.05	0.02	0.003
Pickup Truck	0.02	1.07	0.09	331	0.01	0.01	0.05	0.02	0.003
Delivery Truck	0.05	0.59	0.82	660	0.01	0.04	0.10	0.04	0.01
Haul Truck	0.06	0.22	2.30	973	0.003	0.15	0.17	0.09	0.01
Calendar Year 2023									
Employee	0.03	0.83	0.08	290	0.01	0.01	0.05	0.02	0.003
Pickup Truck	0.02	0.98	0.08	319	0.01	0.01	0.05	0.02	0.003
Delivery Truck	0.05	0.52	0.73	648	0.01	0.04	0.10	0.04	0.01
Haul Truck	0.01	0.08	1.46	928	0.001	0.15	0.15	0.07	0.01
Calendar Year 2024									
Employee	0.03	0.78	0.07	281	0.01	0.01	0.05	0.02	0.003
Pickup Truck	0.02	0.91	0.07	309	0.004	0.01	0.05	0.02	0.003
Delivery Truck	0.04	0.47	0.64	637	0.004	0.04	0.10	0.04	0.01
Haul Truck	0.01	0.08	1.46	919	0.001	0.14	0.15	0.07	0.01
Calendar Year 2025									
Employee	0.02	0.73	0.06	272	0.004	0.01	0.05	0.02	0.003
Pickup Truck	0.02	0.84	0.06	298	0.004	0.01	0.05	0.02	0.003
Delivery Truck	0.04	0.42	0.57	624	0.004	0.04	0.10	0.04	0.01
Haul Truck	0.01	0.08	1.45	909	0.001	0.14	0.15	0.07	0.01
Calendar Year 2026									
Employee	0.02	0.70	0.06	264	0.004	0.01	0.05	0.02	0.003
Pickup Truck	0.01	0.79	0.05	289	0.003	0.01	0.05	0.02	0.003
Delivery Truck	0.04	0.38	0.50	612	0.003	0.04	0.10	0.04	0.01
Haul Truck	0.01	0.08	1.44	901	0.0005	0.14	0.15	0.07	0.01

Source: CARB EMFAC Emissions Model.

Off-Road Equipment

Construction of the proposed Project would require the use of heavy-duty equipment, such as excavators, loaders, forklifts, and off-road haul trucks. This equipment would be used to load and unload material and otherwise sort and handle material. Composite emission factors from the OFFROAD emissions model were used. Emissions from construction activities were estimated based on the projected construction activity schedule, the number of vehicles/pieces of equipment, the types of equipment/type of fuel used, vehicle/equipment utilization rates, equipment horsepower, and the construction year. This data were based on the Inglewood Transit Connector: Construction Scenarios for the Environmental Impact Report by Pacifica Services (dated June 27, 2020). Emissions from construction activities were also estimated based on load factor (throttle setting)[33] and usage factor.[34] For the daily emission estimates and short-term ambient concentration analysis (1-hour to 24-hour averaging periods), the usage factor of 100 percent was applied (i.e., full-time operation). For the long-term ambient concentration analyses and the health risk assessment, the usage factor of less than 100 percent was applied by equipment type, as not all of the equipment can be used every hour of the day and every day of the year due to safety issues and manpower constraints. That is, the short-term impacts are based on worst-case construction activity but the long-term impacts are based on average construction activity.

This information was applied to criteria pollutant emissions factors, in grams per horsepower-hour, primarily derived using the OFFROAD emissions model. **Equation 2** outlines how off-road construction equipment emissions were computed, and the emissions factors used in this assessment are summarized, by equipment type within **Table 7** through **Table 11: Emissions Factors (g/hp-hour) for Off-Road Equipment** for 2022 through 2026, respectively**.**

Equation 2

*Emission Rate (tons/year) = Emission Factor (gram/hp-hour) * size (hp) * hours of operation * Load Factor * usage factor * (453.59/2000 tons/gram)*

*Emission Rate (pounds/day) = Emission Factor (gram/hp-hour) * size (hp) * hours of operation * Load Factor * (1/453.59 pounds/gram)*

33 Load factor (or throttle setting) are the engine performance demands, as a percent of maximum power; based on values within OFFROAD and typically ranging from 30 to 80 percent depending on equipment type.

34 Activity level (or usage factor) are defined as the percent of operation for a piece of equipment over a given time.

Table 7
Emissions Factors (g/hp-hour) for Off-Road Equipment for 2022

Equipment	HP	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Impact Pile Driver	700	0.04	0.49	0.32	0.002	0.01	0.01	268
Crane	270	0.09	0.52	1.08	0.001	0.04	0.04	152
Backhoe	127	0.07	1.14	0.65	0.002	0.03	0.03	193
Loader	164	0.07	1.14	0.65	0.002	0.03	0.03	193
Auger Drill Rig	600	0.04	0.49	0.32	0.002	0.01	0.01	268
Air Compressor	150	0.03	0.87	0.35	0.001	0.01	0.01	158
Excavator	396	0.05	0.40	0.39	0.002	0.01	0.01	201
Bobcat	72.9	0.16	1.39	1.37	0.002	0.10	0.09	189
Generator	15	0.41	2.16	3.29	0.006	0.14	0.13	421
Drum Mixer	3.5	0.31	1.82	2.35	0.005	0.09	0.08	318
Drill Rig Truck	600	0.04	0.49	0.32	0.002	0.01	0.01	268
Concrete Saw	24	0.41	1.71	3.17	0.005	0.12	0.11	416
Compactor	80	0.11	1.29	1.17	0.002	0.07	0.06	198
Man Lift	45.9	0.45	2.85	3.40	0.007	0.13	0.12	466
Welder	23	0.05	0.96	0.90	0.002	0.01	0.01	181
Street Sweeper	240	0.27	1.28	2.00	0.004	0.09	0.08	256

Source: CARB OFFROAD Emissions Model.

Table 8
Emissions Factors (g/hp-hour) for Off-Road Equipment for 2023

Equipment	HP	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Impact Pile Driver	700	0.04	0.49	0.30	0.002	0.01	0.01	268
Crane	270	0.09	0.52	1.00	0.001	0.04	0.04	152
Backhoe	127	0.07	1.14	0.56	0.002	0.03	0.03	194
Loader	164	0.07	1.14	0.56	0.002	0.03	0.03	194
Auger Drill Rig	600	0.04	0.49	0.30	0.002	0.01	0.01	268
Air Compressor	150	0.03	0.88	0.29	0.001	0.01	0.01	160
Excavator	396	0.05	0.40	0.34	0.002	0.01	0.01	201
Bobcat	72.9	0.15	1.38	1.26	0.002	0.08	0.08	189
Generator	15	0.41	2.14	3.26	0.006	0.14	0.13	421
Drum Mixer	3.5	0.31	1.82	2.35	0.005	0.09	0.08	318
Drill Rig Truck	600	0.04	0.49	0.30	0.002	0.01	0.01	268
Concrete Saw	24	0.42	1.72	3.18	0.005	0.12	0.11	417
Compactor	80	0.10	1.28	1.09	0.002	0.06	0.05	198
Man Lift	45.9	0.45	2.85	3.40	0.007	0.13	0.12	466
Welder	23	0.05	0.96	0.89	0.002	0.01	0.01	181
Street Sweeper	240	0.27	1.28	1.99	0.004	0.09	0.08	256

Source: CARB OFFROAD Emissions Model.

Table 9
Emissions Factors (g/hp-hour) for Off-Road Equipment for 2024

Equipment	HP	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Impact Pile Driver	700	0.04	0.49	0.28	0.002	0.01	0.01	268
Crane	270	0.08	0.49	0.91	0.001	0.04	0.03	152
Backhoe	127	0.06	1.14	0.51	0.002	0.03	0.02	194
Loader	164	0.06	1.14	0.51	0.002	0.03	0.02	194
Auger Drill Rig	600	0.04	0.49	0.28	0.002	0.01	0.01	268
Air Compressor	150	0.03	0.89	0.26	0.001	0.01	0.01	161
Excavator	396	0.05	0.40	0.32	0.002	0.01	0.01	201
Bobcat	72.9	0.14	1.39	1.19	0.002	0.08	0.07	189
Generator	15	0.40	2.13	3.24	0.006	0.13	0.12	421
Drum Mixer	3.5	0.31	1.82	2.35	0.005	0.09	0.08	318
Drill Rig Truck	600	0.04	0.49	0.28	0.002	0.01	0.01	268
Concrete Saw	24	0.42	1.72	3.18	0.005	0.12	0.11	417
Compactor	80	0.10	1.28	1.03	0.002	0.05	0.05	198
Man Lift	45.9	0.45	2.85	3.40	0.007	0.13	0.12	466
Welder	23	0.05	0.96	0.89	0.002	0.01	0.01	181
Street Sweeper	240	0.26	1.27	1.98	0.004	0.08	0.08	256

Source: CARB OFFROAD Emissions Model.

Table 10

Emissions Factors (g/hp-hour) for Off-Road Equipment for 2025

Equipment	HP	ROG	CO	NO_X	SO_2	PM_10	$PM_{2.5}$	CO_2
Impact Pile Driver	700	0.04	0.48	0.21	0.002	0.01	0.01	266
Crane	270	0.08	0.44	0.80	0.001	0.03	0.03	152
Backhoe	127	0.06	1.14	0.44	0.002	0.02	0.02	194
Loader	164	0.06	1.14	0.44	0.002	0.02	0.02	194
Auger Drill Rig	600	0.04	0.48	0.21	0.002	0.01	0.01	266
Air Compressor	150	0.03	0.90	0.21	0.002	0.01	0.01	163
Excavator	396	0.04	0.40	0.27	0.002	0.01	0.01	201
Bobcat	72.9	0.13	1.37	1.07	0.002	0.06	0.06	189
Generator	15	0.40	2.12	3.22	0.006	0.13	0.12	421
Drum Mixer	3.5	0.31	1.82	2.34	0.005	0.09	0.08	318
Drill Rig Truck	600	0.04	0.48	0.21	0.002	0.01	0.01	266
Concrete Saw	24	0.42	1.73	3.20	0.005	0.12	0.11	420
Compactor	80	0.09	1.28	0.98	0.002	0.05	0.04	198
Man Lift	45.9	0.45	2.85	3.40	0.007	0.13	0.12	466
Welder	23	0.05	0.95	0.89	0.002	0.01	0.01	181
Street Sweeper	240	0.26	1.26	1.96	0.004	0.08	0.07	256

Source: CARB OFFROAD Emissions Model.

Table 11
Emissions Factors (g/hp-hour) for Off-Road Equipment for 2026

Equipment	HP	ROG	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	CO_2
Impact Pile Driver	700	0.04	0.48	0.21	0.002	0.01	0.01	267
Crane	270	0.07	0.43	0.72	0.001	0.03	0.03	152
Backhoe	127	0.06	1.14	0.40	0.002	0.02	0.02	194
Loader	164	0.06	1.14	0.40	0.002	0.02	0.02	194
Auger Drill Rig	600	0.04	0.48	0.21	0.002	0.01	0.01	267
Air Compressor	150	0.03	0.91	0.19	0.002	0.01	0.01	165
Excavator	396	0.04	0.403	0.26	0.002	0.01	0.01	201
Bobcat	72.9	0.12	1.37	0.98	0.002	0.06	0.05	189
Generator	15	0.40	2.12	3.20	0.006	0.13	0.12	421
Drum Mixer	3.5	0.31	1.82	2.34	0.005	0.09	0.08	318
Drill Rig Truck	600	0.04	0.48	0.21	0.002	0.01	0.01	267
Concrete Saw	24	0.42	1.73	3.19	0.005	0.12	0.11	419
Compactor	80	0.09	1.28	0.93	0.002	0.04	0.04	198
Man Lift	45.9	0.45	2.85	3.40	0.007	0.13	0.12	466
Welder	23	0.05	0.95	0.89	0.002	0.01	0.01	181
Street Sweeper	240	0.26	1.26	1.95	0.004	0.08	0.07	256

Source: CARB OFFROAD Emissions Model.

Fugitive Dust from Project Alignment Activities

Fugitive dust emissions from site preparation, grading equipment passes, soil movement, unloading/loading of materials, and other construction related activities is based on work performed by Midwest Research Institute (MRI).[35] Generally, the emission factor used is 0.11 tons PM_{10} per acre-month of activity. This emission factor is based on MRI's observation of the types, quantity, and duration of operations at eight construction sites (three in Las Vegas and five in California). The bulk of the operations observed were site preparation-related activities. The observed activity data were then combined with operation-specific emission factors provided in USEPA's AP-42 to produce emissions estimates.[36]

The construction emission factor is assumed to include the effects of typical control measures such as routine watering. A dust control effectiveness of 75 percent is assumed from these measures, which is based on the estimated control effectiveness of watering. The MRI also includes an emission factor for worst-case emissions of 0.42 tons PM_{10} per acre-month.[37] This emission factor is appropriate for large-scale construction operations, which involve substantial earthmoving operations. The ratio of $PM_{2.5}$ to PM_{10} was assumed to be 21 percent.

The MRI also includes an emission factor for typical conditions of 0.22-ton PM_{10} per acre-month without control measures. This emission factor is based on MRI's observation of the types, quantity, and duration of operations at eight construction sites (three in Las Vegas and five in California). The bulk of the operations observed were site preparation-related activities. The observed activity data were then combined with operation-specific emission factors provided in USEPA's AP-42 to produce emissions estimates.

The SCAQMD estimated that 25 percent of their construction projects under the jurisdiction of the District involve substantial earthmoving operations (worst case conditions) and applied recommended application of the larger emission factor of 0.42-ton PM_{10} per acre-month for those types of construction projects. For the remainder of the construction projects, the average emission factor of 0.22-ton PM_{10} per acre-month was recommended.

Therefore, given the larger size of the proposed Project, the 0.42 ton PM_{10} per acre-month emission factor was used along with the dust control effectiveness of 75 percent, which is based on the estimated control

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35 Midwest Research Institute, Inventory of Agricultural Tilling, Unpaved Roads and Airstrips and Construction Sites, November 1974.

36 Environmental Protection Agency. Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Section 13.2.3 Heavy Construction Operations, January, 1995, Accessed July 6, 2020 at: https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s02-3.pdf

37 Worst-case refers to construction sites with active large-scale earth moving operations.

effectiveness of watering, reducing vehicle speed on unpaved surface, and other measures.[38]

Mitigated Combustion Emission Factors for Off-road Equipment

Table 12: Emissions Factors for Off-Road Equipment by Engine Tier presents the mitigated emission factors for off-road construction equipment. The CO, NOx, and CO_2 emission factors for the natural gas sweepers would be 4.1, 1.2, and 342 g/hp-hour, respectively.

Table 12
Emissions Factors (g/hp-hour) for Off-Road Equipment by Engine Tier

Tier	Low HP	High HP	CO	NO_X	PM_{10}	$PM_{2.5}$	ROG
Tier 3	25	49	4.1	4.63	0.28	0.28	0.29
	50	74	3.7	2.74	0.192	0.192	0.12
	75	119	3.7	2.74	0.192	0.192	0.12
	120	174	3.7	2.32	0.112	0.112	0.12
	175	299	2.6	2.32	0.088	0.088	0.12
	300	599	2.6	2.32	0.088	0.088	0.12
	600	750	2.6	2.32	0.088	0.088	0.12
	751	2000	2.6	2.32	0.088	0.088	0.12
Tier 4 Final	25	49	4.1	2.75	0.008	0.008	0.12
	50	74	3.7	2.74	0.008	0.008	0.12
	75	119	3.7	0.26	0.008	0.008	0.06
	120	174	3.7	0.26	0.008	0.008	0.06
	175	299	2.2	0.26	0.008	0.008	0.06
	300	599	2.2	0.26	0.008	0.008	0.06
	600	750	2.2	0.26	0.008	0.008	0.06
	751	2000	2.6	2.24	0.016	0.016	0.06

Source: CARB OFFROAD Emissions Model.

9.0 AMBIENT AIR CONCENTRATION IMPACTS

A dispersion modeling analysis was also conducted to assess Project-related impacts to air concentrations of CO, NO_2, PM_{10}, $PM_{2.5}$, and SO_2. Concentrations were compared to SCAQMD's significance thresholds and California/federal ambient air quality standards. The proposed Project would result in a significant construction air quality impact if concentration impacts from the proposed Project exceed the significance

38 SCAQMD Air Quality Management Handbook Mitigation Measures Fugitive Dust, Accessed July 6, 2020 at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/mitigation-measures-and-control-efficiencies/fugitive-dust.

concentration thresholds set forth in **Table 2: Ambient Air Quality Standards for Criteria Pollutants (see Attachment C: Supplemental Health Impact Information** for further information.[39]

Table 15: Estimated Unmitigated Concentration Impacts from Construction Activities provides the unmitigated proposed Project air concentrations from construction activities for nearby receptors.

Table 16: Estimated Mitigated Concentration Impacts from Construction Activities provides the mitigated proposed Project air concentrations from construction activities for nearby receptors.

Ambient Air Quality Concentrations Due To Construction Activities

Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions provides detailed information about the location of air quality receptors used in the dispersion modeling analysis of criteria pollutants (NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$). There are a total of 1,954 air quality receptors.[40] These

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39 The recent Sierra Club v. County of Fresno California Supreme Court case held, in part, that the Friant Ranch Specific Plan EIR (Friant Ranch EIR) was deficient in the informational discussion of air quality impacts as they connect to adverse human health effects. The Supreme Court concluded that an EIR's discussion must "make [ ] a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."

For the proposed Project, daily construction emissions of NOx (a precursor to the formation of ozone) would exceed significance thresholds resulting in a significant and unavoidable impact even with mitigation. The proposed Project would contribute to regional ozone contributions but determining potential health impacts caused directly by the construction activities is not feasible.

According to the San Joaquin Valley Air Pollution Control District, it is not possible to determine ozone concentrations or make a direct correlation to human health impacts, because project-focused modeling cannot feasibly predict ozone formation and resulting regional ozone concentrations. SCAQMD has indicated that applicable methods do exist but are not applicable or feasible in most cases. The Court did not rule on whether health impacts of the named pollutants were scientifically feasible to predict, but it did state that: "if it is not scientifically possible to do more than has already been done to connect air quality effects with potential human health impacts, the Friant Ranch EIR itself must explain why, in a manner reasonably calculated to inform the public of the scope of what is and is not yet known about the project's impacts."

The current modeling tools are not equipped to provide meaningful analysis of the correlation between a project's criteria pollutant or pollutant precursor emissions and specific health impacts. Air dispersion modeling is available, such as the American Meteorological Society/ Environmental Protection Agency Regulatory Model (AERMOD), but these models cannot accurately estimate dispersion of ozone. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, atmospheric stability, and wind patterns. Because of the dynamic nature of ozone formation and the complexities of predicting ground-level ozone concentrations in relation to ambient standards, air districts instead generally develop mass emissions thresholds for NOx that are used to make significance determinations.

In summary, modeling of the proposed Project's ozone emissions is not feasible and would not provide meaningful information given the number of variables that affect ozone formation (e.g., location of activity and weather on that day that results in conversion of precursor emissions into ozone). However, as shown in **Section 9**, the resultant air concentrations for the proposed Project would be below the significance thresholds and thus, the air quality health impacts due to the construction criteria air pollutant emissions would be expected to be less than significant. Nevertheless, the health impacts due to diesel particulate emissions would be potentially above the significance thresholds and would potentially be significant. Lastly, daily operational emissions would potentially exceed the SCAQMD significance thresholds during an NFL event. However, once operational in 2026, the proposed Project will increase transit ridership throughout the region, reduce vehicle miles traveled and criteria air pollutants, GHG emissions, and improve air quality throughout the South Coast Air Basin (see **Section 12**). Therefore, short-term construction-related and operational–related air quality impacts would occur but long-term operational-related air quality benefits would follow.

40 There are a total of 669 air quality criteria pollutant receptors plus the 1,285 sensitive receptors.

receptors are designed to represent off-site locations where a person has access and can be situated for an hour or longer at a time (which is different from the HRA receptors which are designed to represent specific residences, schools, daycares, off-site worker locations). The ambient air quality standards analysis results are presented for both the Morning/Evening and Morning/Night construction scenarios.

Morning/Evening Construction Activities

As shown in **Table 13: Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario**, for the air quality receptors during Project construction, the incremental 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be a maximum of 0.16 ppm (see **Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions**), which is below the State threshold of 0.18 ppm. The maximum incremental 98th percentile 1-hour NO_2 impacts to a sensitive receptor, including background concentrations, would be 0.12 ppm, which is potentially above the federal threshold of 0.10 ppm. The maximum Project construction incremental annual NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.01 ppm, which is below the thresholds of 0.03 ppm (State) and below the threshold of 0.0534 ppm (federal). Therefore, unmitigated construction activities would potentially exceed the 1-hour and would result in a *potentially significant air quality impact of 1-hour NO_2 on nearby receptors due to construction activities* but would not exceed the annual NO_2 thresholds and would result in a *less than significant air quality impact of annual NO_2 on nearby receptors due to construction activities.*

As shown in **Table 13: Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario**, for the air quality receptors during Project construction, the maximum incremental 24-hour and annual PM_{10} impacts to a sensitive receptor would be 3.02 µg/m^3 and 0.23 µg/m^3, respectively; impacts would be below the 24-hour PM_{10} threshold of 10.4 µg/m^3 and below the annual PM_{10} threshold of 1.0 µg/m^3. The Project construction maximum incremental 24-hour $PM_{2.5}$ impacts to a sensitive receptor would be 2.78 µg/m^3, which would be below the 24-hour $PM_{2.5}$ threshold of 10.4 µg/m^3. Therefore, unmitigated construction activities would result in a *less than significant air quality impact of PM_{10} and $PM_{2.5}$ on nearby receptors due to construction activities*.

As shown in **Table 14: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario**, for the air quality receptors during Project construction, the maximum incremental 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.14 ppm, which is below the State threshold of 0.18 ppm. The maximum incremental 98th percentile 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.10 ppm, which is within the federal threshold of 0.10 ppm. The maximum Project construction incremental annual NO_2 impacts including background concentrations would be 0.01 ppm, which is below the thresholds of 0.03 ppm (state) and below the threshold of 0.0534 ppm (federal). Therefore, mitigated construction activities would not exceed the 1-hour and annual NO_2 thresholds and would be a *less than significant air quality impact of NO_2 on nearby receptors due to construction activities*.

As shown in **Table 14: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario**, for the air quality receptors during Project construction, the maximum incremental 24-hour and annual PM_{10} impacts would be 0.65 µg/m^3 and 0.06 µg/m^3, respectively. Impacts would be below the 24-hour PM_{10} threshold of 10.4 µg/m^3 and the annual PM_{10} threshold of 1.0 µg/m^3. The Project construction maximum incremental 24-hour $PM_{2.5}$ impacts would be 0.65 µg/m^3, which would be below the 24-hour $PM_{2.5}$ threshold of 10.4 µg/m^3. Therefore, mitigated construction activities would result in a *less than significant air quality impact of PM_{10} and $PM_{2.5}$ on nearby receptors due to construction activities*.

Additionally, as shown in **Table 14: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario**, for the air quality receptors during Project construction, the maximum incremental SO_2 and CO impacts including background concentrations and Adjusted Baseline would be well below the significance thresholds and would be a *less than significant air quality impact of SO_2 and CO on all nearby receptors due to construction activities*.

Table 13
Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario
(Approximately 7:00 AM to 3:00 PM and 3:00 PM to 11:00 PM)

Criteria	Maximum 1-Hour NO_2 (ppm)	98% 1-Hour NO_2 (ppm)	CAAQS Annual NO_2 (ppm)	NAAQS Annual NO_2 (ppm)	24-Hour PM_{10} ($\mu g/m^3$)	Annual PM_{10} ($\mu g/m^3$)	24-Hour $PM_{2.5}$ ($\mu g/m^3$)	CAAQS 1-Hour SO_2 (ppm)	NAAQS 1-Hour SO_2 (ppm)	24-Hour SO_2 (ppm)	1-Hour CO (ppm)	8-Hour CO (ppm)
Off-site Receptor (Project Increment)	0.06	0.05	<0.01	<0.01	3.02	0.23	2.78	<0.01	<0.01	<0.01	0.29	0.03
Background Concentration	0.07	0.05	0.01	0.01				0.01	0.01	<0.01	2.10	1.60
Adjusted Baseline Concentrations	0.03	0.02	<0.01	<0.01				<0.01	<0.01	<0.01	1.80	0.80
Total Concentration	**0.16**	**0.12**	**0.01**	**0.01**	**3.02**	**0.23**	**2.78**	**0.01**	**0.01**	**<0.01**	**4.19**	**2.43**
Significance Threshold	0.18	0.10	0.03	0.0534	10.4	1.00	10.4	0.25	0.075	0.04	20.0	9.00
Potentially Significant (Yes or No)?	No	**Yes**	No	No	No	No	No	No	No	No	No	No

Source: RCH Group, 2020

Total concentrations reflect rounding of values (Project Increment plus background concentration plus Adjusted Baseline). Per SCAQMD guidance, PM_{10} and $PM_{2.5}$ impacts do not include background concentrations.

Table 14
Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Evening Scenario
(Approximately 7:00 AM to 3:00 PM and 3:00 PM to 11:00 PM)

Criteria	Maximum 1-Hour NO_2 (ppm)	98% 1-Hour NO_2 (ppm)	CAAQS Annual NO_2 (ppm)	NAAQS Annual NO_2 (ppm)	24-Hour PM_{10} ($\mu g/m^3$)	Annual PM_{10} ($\mu g/m^3$)	24-Hour $PM_{2.5}$ ($\mu g/m^3$)	CAAQS 1-Hour SO_2 (ppm)	NAAQS 1-Hour SO_2 (ppm)	24-Hour SO_2 (ppm)	1-Hour CO (ppm)	8-Hour CO (ppm)
Off-site Receptor (Project Increment)	0.04	0.03	<0.01	<0.01	0.65	0.06	0.65	<0.01	<0.01	<0.01	0.68	0.08
Background Concentration	0.07	0.05	0.01	0.01				0.01	0.01	<0.01	2.10	1.60
Adjusted Baseline Concentrations	0.03	0.02	<0.01	<0.01				<0.01	<0.01	<0.01	1.80	0.80
Total Concentration	**0.14**	**0.10**	**0.01**	**0.01**	**0.65**	**0.06**	**0.65**	**0.01**	**0.01**	**<0.01**	**4.58**	**2.48**
Significance Threshold	0.18	0.10	0.03	0.0534	10.4	1.00	10.4	0.25	0.075	0.04	20.0	9.00
Potentially Significant (Yes or No)?	No	No	No	No	No	No	No	No	No	No	No	No

Source: RCH Group, 2020

Total concentrations reflect rounding of values (Project Increment plus background concentration plus Adjusted Baseline). Per SCAQMD guidance, PM_{10} and $PM_{2.5}$ impacts do not include background concentrations.

As previously noted, construction activities are expected to commence in the end of 2021 and be completed in mid-2026. Construction activity would primarily occur over a 24 hour per day schedule with three shifts as follows:

- a morning shift from approximately 7:00 AM to 3:00 PM (Morning Shift), and
- an evening shift from approximately 3:00 PM to 11:00 PM (Evening Shift), or
- a night shift from approximately 11:00 PM to 7:00 AM (Night Shift).

Combinations of these shifts would be referred to "Morning/Night" or "Night/Morning."

Morning/Night Construction Activities

As shown in **Table 15: Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Night Scenario**, for the air quality receptors, the maximum Project construction incremental 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.16 ppm (see **Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions**), which is below the State threshold of 0.18 ppm. The maximum incremental 98th percentile 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.12 ppm, which is potentially above the federal threshold of 0.10 ppm. The maximum Project construction incremental annual NO_2 impacts including background concentrations and Adjusted Baseline would be 0.01 ppm, which is below the thresholds of 0.03 ppm (State) and 0.0534 ppm (federal). Therefore, unmitigated construction activities would potentially exceed the 1-hour and would result in a *potentially significant air quality impact of 1-hour* NO_2 *on nearby receptors due to construction activities* but would not exceed the annual NO_2 thresholds and would result in a *less than significant air quality impact of annual* NO_2 *on nearby receptors due to construction activities.*

As shown in **Table 15: Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Night Scenario**, for the air quality receptors, the Project construction maximum incremental 24-hour and annual PM_{10} impacts to a sensitive receptor would be 2.79 µg/m^3 and 0.22 µg/m^3, respectively. Impacts would be below the 24-hour PM_{10} threshold of 10.4 µg/m^3 and below the annual PM_{10} threshold of 1.0 µg/m^3. The Project construction maximum incremental 24-hour $PM_{2.5}$ impacts would be 2.56 µg/m^3, which would be below the 24-hour $PM_{2.5}$ threshold of 10.4 µg/m^3. Therefore, unmitigated construction activities would result in a *less than significant air quality impact of* PM_{10} *and* $PM_{2.5}$ *on nearby receptors due to construction activities*.

As shown in **Table 16: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Night Scenario**, for the air quality receptors, the maximum Project construction incremental 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.13 ppm, which is below the State threshold of 0.18 ppm. The maximum incremental 98th

percentile 1-hour NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.10 ppm, which is within the federal threshold of 0.10 ppm. The maximum Project construction incremental annual NO_2 impacts to a sensitive receptor, including background concentrations and Adjusted Baseline, would be 0.01 ppm, which is below the thresholds of 0.03 ppm (State) and 0.0534 ppm (federal). Therefore, mitigated construction activities would not the 1-hour and annual NO_2 thresholds and would be a *less than significant air quality impact of* NO_2 *on nearby receptors due to construction activities*.

As shown in **Table 16: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Night Scenario**, for the air quality receptors, the Project construction maximum incremental 24-hour and annual PM_{10} impacts to a sensitive receptor would be 0.62 µg/m^3 and 0.06 µg/m^3, respectively. Impacts would be below the 24-hour PM_{10} threshold of 10.4 µg/m^3 and the annual PM_{10} threshold of 1.0 µg/m^3. The Project construction maximum incremental 24-hour $PM_{2.5}$ impacts would be 0.60 µg/m^3, which would be below the 24-hour $PM_{2.5}$ threshold of 10.4 µg/m^3. Therefore, mitigated construction activities would result in a *less than significant air quality impact of* PM_{10} *and* $PM_{2.5}$ *on nearby receptors due to construction activities*.

Additionally, as shown in **Table 16: Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Night Scenario**, for the air quality receptors, the proposed Project construction incremental SO_2 and CO impacts, including background concentrations and Adjusted Baseline, would be well below the significance thresholds and would be a *less than significant air quality impact of* SO_2 *and CO on all nearby receptors due to construction activities*.

Table 15
Estimated Unmitigated Concentration Impacts from Construction Activities for Morning/Night Scenario
(Approximately 7:00 AM to 3:00 PM and 11:00 PM to 7:00 AM)

Criteria	Maximum 1-Hour NO_2 (ppm)	98% 1-Hour NO_2 (ppm)	CAAQS Annual NO_2 (ppm)	NAAQS Annual NO_2 (ppm)	24-Hour PM_{10} ($\mu g/m^3$)	Annual PM_{10} ($\mu g/m^3$)	24-Hour $PM_{2.5}$ ($\mu g/m^3$)	CAAQS 1-Hour SO_2 (ppm)	NAAQS 1-Hour SO_2 (ppm)	24-Hour SO_2 (ppm)	1-Hour CO (ppm)	8-Hour CO (ppm)
Off-site Receptor (Project Increment)	0.06	0.05	<0.01	<0.01	2.79	0.22	2.56	<0.01	<0.01	<0.01	0.29	0.03
Background Concentration	0.07	0.05	0.01	0.01				0.01	0.01	<0.01	2.10	1.60
Adjusted Baseline Concentrations	0.03	0.02	<0.01	<0.01				<0.01	<0.01	<0.01	1.80	0.80
Total Concentration	**0.16**	**0.12**	**0.01**	**0.01**	**2.79**	**0.22**	**2.56**	**0.02**	**0.02**	**<0.01**	**4.19**	**2.43**
Significance Threshold	0.18	0.10	0.03	0.0534	10.4	1.00	10.4	0.25	0.075	0.04	20.0	9.00
Potentially Significant (Yes or No)?	No	**Yes**	No	No	No	No	No	No	No	No	No	No

Source: RCH Group, 2020

Total concentrations reflect rounding of values (Project Increment plus background concentration plus Adjusted Baseline). Per SCAQMD guidance, PM_{10} and $PM_{2.5}$ impacts do not include background concentrations.

Table 16
Estimated Mitigated Concentration Impacts from Construction Activities for Morning/Night Scenario
(Approximately 7:00 AM to 3:00 PM and 11:00 PM to 7:00 AM)

Criteria	Maximum 1-Hour NO_2 (ppm)	98% 1-Hour NO_2 (ppm)	CAAQS Annual NO_2 (ppm)	NAAQS Annual NO_2 (ppm)	24-Hour PM_{10} ($\mu g/m^3$)	Annual PM_{10} ($\mu g/m^3$)	24-Hour $PM_{2.5}$ ($\mu g/m^3$)	CAAQS 1-Hour SO_2 (ppm)	NAAQS 1-Hour SO_2 (ppm)	24-Hour SO_2 (ppm)	1-Hour CO (ppm)	8-Hour CO (ppm)
Off-site Receptor (Project Increment)	0.04	0.03	<0.01	<0.01	0.62	0.06	0.60	<0.01	<0.01	<0.01	0.67	0.07
Background Concentration	0.07	0.05	0.01	0.01				0.01	0.01	<0.01	2.10	1.60
Adjusted Baseline Concentrations	0.03	0.02	<0.01	<0.01				<0.01	<0.01	<0.01	1.80	0.80
Total Concentration	**0.13**	**0.10**	**0.01**	**0.01**	**0.62**	**0.06**	**0.60**	**0.02**	**0.02**	**<0.01**	**4.57**	**2.47**
Significance Threshold	0.18	0.10	0.03	0.0534	10.4	1.00	10.4	0.25	0.075	0.04	20.0	9.00
Potentially Significant (Yes or No)?	No	No	No	No	No	No	No	No	No	No	No	No

Source: RCH Group, 2020

Total concentrations reflect rounding of values (Project Increment plus background concentration plus Adjusted Baseline). Per SCAQMD guidance, PM_{10} and $PM_{2.5}$ impacts do not include background concentrations.

Summary of Air Quality Concentration Assessment Results

The following concluding statements can be made about the ambient air quality analysis results:

- The maximum concentrations of the 1-hour NO_2 impacts would not exceed the significance threshold and would be a *less than significant impact for all off-site receptors due to construction activities with mitigation*.
- The maximum concentrations of the annual NO_2 impacts would not exceed the significance threshold for the CAAQS and the NAAQS and would be a *less than significant impact for all off-site receptors due to construction activities*.
- The maximum concentrations of 24-hour and annual PM_{10} and 24-hour $PM_{2.5}$ would not exceed the significance threshold and would be *less than significant impact for all off-site receptors due to construction activities with mitigation*.
- The maximum concentrations of SO_2 and CO including background concentrations would be well below the significance thresholds and would be a *less than significant air quality impact of SO_2 and CO on all nearby receptors due to construction activities*.
- Generally (it depends on receptor location and averaging period), the concentrations due to construction activities would be potentially greater for the morning/evening scenario compared to the morning/night scenario. This may have something to do with the morning/evening scenario having a greater intensity than the morning/night especially during overnight hours which tend to exhibit calm, stagnant air flow conditions and thus, higher pollutant concentrations.

10.0 HEALTH RISK ASSESSMENT

The HRA was conducted following methodologies in OEHHA's Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments[41] and SCAQMD's Risk Assessment Procedures for Rule 1401, 1401.1 and 212.[42] This was accomplished by applying the estimated concentrations at the receptors analyzed to the established cancer risk estimates and acceptable reference concentrations for noncancer health effects.

Recent OEHHA's revisions to its Guidance Manual were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in the HRA. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without

41 Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February 2015, Accessed July 6, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

42 South Coast Air Quality Management District, Risk Assessment Procedures for Rule 1401, 1401.1 and 212, September 1, 2017, Accessed July 6, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into an HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the Guidance Manual revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the Guidance Manual, this assumption is lessened to 30 years.

Attachment B: Health Risk Assessment Methodology and Assumptions provides additional methodologies and assumptions used within the health risk assessment. **Attachment C: Supplemental Health Impact Information** provides additional information on health impacts.

Health Impacts

The proposed Project would constitute a new emission source of DPM due to its construction activities. Studies have demonstrated that DPM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to DPM poses a chronic health impact. Health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. Individual cancer risk is the likelihood that a person exposed to air toxic concentrations over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology and a 30-year exposure duration. The maximally exposed individual (MEI) represents the worst–case risk estimate, based on a theoretical person exposed for a period of 30 years at the highest concentration. This is a highly conservative assumption since most people do not remain in place all day and on average residents change residences every 11 to 12 years and do not stay in the same place of work for 25 years. In addition, this assumes that individuals are experiencing outdoor concentrations for the entire exposure period (even when indoors). A school child exposure duration is between ages 2 and 16 years old, which again, is conservative because the elementary, middle, and high school are not often located at the same location.

This HRA analyzes the incremental cancer risks to sensitive receptors in the vicinity of the proposed Project, using emission rates (in pounds per hour) derived from CARB’s OFFROAD emission model. A further description of the sensitive receptors included in the dispersion modeling analysis and HRA is provided in **Attachment A: Air Quality Dispersion Modeling Methodology and Assumptions**.

Notably, peak daily emission estimates were used to estimate short-term air concentrations (1-hour, 8-hour, and 24-hour) while annual emission estimates were used to estimate annual air concentrations. DPM (reported as exhaust emissions of $PM_{2.5}$) and other air toxics emission rates were utilized along with derived concentrations from USEPA’s AERMOD atmospheric dispersion model (using a unit emission rate of 1) to calculate air concentrations at receptors in the Project vicinity. This HRA is intended to provide a worst–case estimate of the increased exposure by employing a standard emission estimation program, an accepted pollutant dispersion model, approved toxicity factors, and conservative exposure parameters.

In accordance with OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments,* this HRA was accomplished by applying the highest estimated concentrations of specific air toxics at the receptors analyzed to the established cancer potency factors and acceptable reference concentrations for noncancer health effects. Increased cancer risks were calculated using the modeled concentrations and OEHHA-recommended methodologies for both a child exposure (3rd trimester through two years of age and ages two through 16 years) and adult exposure (16 to 30 years). The cancer risk calculations were based on applying the OEHHA-recommended age sensitivity factors and breathing rates, as well as the fraction of time at home (100 percent for child and 73 percent for adult), and an exposure duration of 30 years, to the concentration exposures; over a 70-year lifetime. As a conservative assumption, children are assumed to attend a daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area (i.e., 100 percent fraction of time) affected by the Project's emissions. For worker exposures, it is assumed that the working age begins at 16 years, and that exposures to Project emissions occur during the work shift which is typically up to eight hours per day during workdays. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing air pollutants.

Per Education Code Section 17213 (School Site Selection And Approval Guide), a school shall only be located where, "the health risks from the facilities or other pollution sources do not and will not constitute an actual or potential endangerment of public health to persons who would attend or be employed at the school." Proposed projects located within ¼ mile of a school that involve the construction or alteration of a facility that might reasonably be anticipated to emit hazardous air emissions, or the handling of an extremely hazardous substance or mixture containing extremely hazardous substances in a quantity equal to or greater than the state threshold quantity specified in subdivision (j) of HSC Section §25532, and that may impose a health or safety hazard to persons who would attend or would be employed at the school, must meet all requirements per CEQA Guidelines §15186 (b)(1)(2). Therefore, the HRA included nearby schools as sensitive receptors. **Section 7.0** of this document describes recommendations (such as Indoor air filtration systems with MERV 13 or higher and **MM AQ-1** through **MM AQ-11**) to reduce the health impacts at certain schools/daycare centers.

These conservative methodologies overestimate both noncarcinogenic and carcinogenic health risk, possibly by an order of magnitude or more. Therefore, for carcinogenic risks, the actual probabilities of cancer formation in the populations of concern due to exposure to carcinogenic pollutants are likely to be lower than the risks derived using the HRA methodology. The extrapolation of toxicity data in animals to humans, the estimation of concentration prediction methods within dispersion models; and the variability in lifestyles, fitness and other confounding factors of the human population also contribute to the overestimation of health impacts. Therefore, the results of this HRA, although conducted in accordance with all regulatory agency protocols, are highly overstated.

SCAQMD currently does not require the evaluation of long-term cancer risk or chronic health impacts for a short-term project.[43] The proposed Project's construction activities would occur over a six-year period (2022 into 2026). The relatively short duration when compared to the 30-year exposure duration would limit exposures to off-site receptors. Secondly, exhaust emissions associated with the construction activities would not exceed the air concentrations significance thresholds (see **Section 9**) and thus, it is anticipated that construction emissions would not pose a threat to health impacts at nearby receptors.

The SCAQMD thresholds of significance applied to assess project-level health impacts are the exposure of persons to substantial levels of air toxics resulting in (a) a cancer risk level greater than 10 per one million persons or (b) a noncancerous risk (chronic or acute) hazard index greater than 1 or (c) a cancer burden of greater than 0.5 excess cancer cases.[44] For this threshold, sensitive receptors include residential uses, schools, daycare centers, nursing homes, medical centers, and off-site workers. A total of 1,285 sensitive receptors were analyzed.

Construction Activities

Morning/Evening Construction Activities

Table 17: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Evening Scenario provides the proposed Project's unmitigated health impacts from construction activities for existing residences, schools, daycares, and off-site workers receptors. A large majority of the health impacts are due to off-road construction equipment operating within the Project alignment with a minimal contribution from off-site construction truck travel along nearby roadways.

Table 18: Estimated Mitigated Health Impacts from Construction Activities for Morning/Evening Scenario provides the mitigated proposed Project health impacts from construction activities for existing residences, schools, daycares, and off-site workers receptors. A large majority of the health impacts are due to off-road construction equipment operating within the Project alignment with a minimal contribution from off-site construction truck travel along nearby roadways.

43 SCAQMD is currently reviewing and developing guidance for the health risk assessment of construction activities.
44 Cancer burden is the total cancer risk for all receptors divided by the estimated population within the modeling domain.

Table 17

Estimated Unmitigated Health Impacts from Construction Activities for Morning/Evening Scenario (Approximately 7:00 AM to 3:00 PM and 3:00 PM to 11:00 PM)

Criteria	Cancer Risk	Chronic Impact
Existing Residence	27.6	0.02
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	**Yes**	No
Off-site School/Daycare	2.20	0.02
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site Worker	0.76	0.03
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

*Note: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

Table 18

Estimated Mitigated Health Impacts from Construction Activities for Morning/Evening Scenario (Approximately 7:00 AM to 3:00 PM and 3:00 PM to 11:00 PM)

Criteria	Cancer Risk	Chronic Impact
Existing Residence	7.63	<0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site School/Daycare	0.60	0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site Worker	0.20	0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

*NOTES: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

Health Impacts at Existing Residences Due To Construction Activities

As shown in **Table 17: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for a residential receptor would be 27.6 per one million persons. The maximum cancer risks would occur at a residential receptor (also known as the maximum exposed individual or MEI). Thus, the cancer risk for residential receptors due to construction activities would be potentially above the SCAQMD threshold of 10 per one million persons and would be *potentially significant for residential receptors due to construction activities*. The cancer burden due to construction activities would be 0.03 and below the SCAQMD threshold of 0.5 excess cancer cases and would therefore be *less than significant for all residential receptors due to construction activities*.

The unmitigated chronic health impact would be 0.02, based on a proposed Project-related maximum annual diesel concentration of 0.08 μg/m^3 (per dispersion modeling analysis) or 0.08 μg/m^3/5.0 μ g/m^3, which is 0.02. The chronic health impact due to construction activities would be below the Project-level threshold of 1 and would therefore be *less than significant for all residential receptors due to construction activities*.

As shown in **Table 18: Estimated Mitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions (see **Section 7**) for a residential receptor would be 7.6 per one million persons. The maximum cancer risks would occur at a residential receptor. Thus, the cancer risk for residential receptors due to construction activities would be *less than significant for all residential receptors due to construction activities*. The cancer burden due to construction activities would be 0.01 and below the SCAQMD threshold of 0.5 excess cancer cases and would therefore be *less than significant for all residential receptors due to construction activities*.

The mitigated chronic health impact would be less than 0.01, based on a proposed Project-related maximum annual diesel concentration of 0.02 μg/m^3 (per dispersion modeling analysis) or 0.02 μg/m^3/5.0 μ g/m^3, which is 0.01. The chronic health impact due to construction activities would be below the Project-level threshold of 1 and would therefore be *less than significant for all residential receptors due to construction activities*.

Health Impacts at Off-site School/Daycare Due To Construction Activities

As shown in **Table 17: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for a school/daycare receptor would be 2.2 per one million persons. Thus, the cancer risk for school/daycare receptors due to construction activities would be potentially above the SCAQMD threshold of 10 per one million persons and would be *less than significant for all off-site school/daycare receptors due to construction activities*.

The maximum unmitigated chronic health impact for an off-site school/daycare receptors would be 0.02 Thus, the chronic health impact due to construction activities for all off-site school/daycare receptors would be below the Project-level threshold of 1 and the chronic health impact would be *less than significant for all off-site school/daycare receptors due to construction activities*.

As shown in **Table 18: Estimated Mitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions (see **Section 7**) for a school/daycare receptor would be 0.6 per one million persons (using **Mitigation Measures AQ-1 through AQ-12**).[45] In addition to the identified off-road equipment mitigation measures, additional measures for ventilation systems at certain schools and daycare facilities is provided to assist in maintaining adequate air quality. Thus, the cancer risk for school/daycare receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all school/daycare receptors due to construction activities*.

The maximum mitigated chronic health impact for a school/daycare receptor would be 0.01. Thus, the chronic health impact due to construction activities for all school/daycare receptors would be below the Project-level threshold of 1 and the chronic health impact would be *less than significant for all school/daycare receptors due to construction activities*.

Health Impacts at Off-site Workers Due To Construction Activities

As shown in **Table 17: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for an off-site worker receptor (such as office buildings, retail centers, hotels, hospitals) would be 0.8 per one million persons. Thus, the cancer risk for off-site worker receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all off-site worker receptors due to construction activities*.

The maximum unmitigated chronic health impact modeled to occur at an off-site worker receptor would be 0.03. Thus, the chronic health impact due to construction activities at all off-site worker receptors would be below the Project-level threshold of 1 and would be *less than significant for all off-site worker receptors due to construction activities*.

As shown **in Table 18: Estimated Mitigated Health Impacts from Construction Activities for Morning/Evening Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions (see **Section 7**) for an off-site worker receptor would be 0.2 per one million persons. Thus, the

45 Primarily due to construction activities during year 3 and 4 associated with Phase 2 and 3.

cancer risk for off-site worker receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all off-site worker receptors due to construction activities*.

The maximum mitigated chronic health impact modeled to occur at an off-site worker receptor would be 0.01. Thus, the chronic health impact due to construction activities at all off-site worker receptors would be below the Project-level threshold of 1 and would be *less than significant for all off-site worker receptors due to construction activities*.

Morning/Night Construction Activities

Table 19: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Night Scenario provides the proposed Project's unmitigated health impacts from construction activities for existing residences, schools, daycares, and off-site workers receptors. A large majority of the health impacts are due to off-road construction equipment operating within the Project alignment with a minimal contribution from off-site construction truck travel along nearby roadways.

Table 20: Estimated Mitigated Health Impacts from Construction Activities for Morning/Night Scenario provides the mitigated proposed Project health impacts (see **Section 7**) from construction activities for existing residences, schools, daycares, and off-site workers receptors. A large majority of the health impacts are due to off-road construction equipment operating within the Project alignment with a minimal contribution from off-site construction truck travel along nearby roadways.

Health Impacts at Existing Residences Due To Construction Activities

As shown in **Table 19: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for a residential receptor would be 33.8 per one million persons. Thus, the cancer risk for residential receptors due to construction activities would be potentially above the SCAQMD threshold of 10 per one million persons and would be *potentially significant for residential receptors due to construction activities*. The cancer burden due to construction activities would be 0.03 and below the SCAQMD threshold of 0.5 excess cancer cases and would therefore be *less than significant for all residential receptors due to construction activities*.

The unmitigated chronic health impact would be 0.02, based on a proposed Project-related maximum annual diesel concentration of 0.10 $\mu g/m^3$ (per dispersion modeling analysis) or 0.10 $\mu g/m^3$/5.0 μ g/m^3, which is 0.02. The chronic health impact due to construction activities would be below the Project-level threshold of 1 and would therefore be *less than significant for all residential receptors due to construction activities*.

Table 19

Estimated Unmitigated Health Impacts from Construction Activities for Morning/Night Scenario (Approximately 7:00 AM to 3:00 PM and 11:00 PM to 7:00 AM)

Criteria	Cancer Risk	Chronic Impact
Existing Residence	**33.8**	0.02
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	**Yes**	No
Off-site School/Daycare	2.45	0.02
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site Worker	0.64	0.02
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

*Note: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

Table 20

Estimated Mitigated Health Impacts from Construction Activities for Morning/Night Scenario (Approximately 7:00 AM to 3:00 PM and 11:00 PM to 7:00 AM)

Criteria	Cancer Risk	Chronic Impact
Existing Residence	9.43	0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site School/Daycare	0.67	0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No
Off-site Worker	0.18	0.01
Significance Threshold	10	1.0
Potentially Significant (Yes or No)?	No	No

*Note: Values in **bold** are in excess of applicable standard.*
Source: RCH Group, 2020

As shown in **Table 20: Estimated Mitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions for a residential receptor would be 9.4 per one million persons. Thus, the cancer risk for residential receptors due to construction activities would be *less than significant for all residential receptors due to construction activities*. The cancer burden due to construction activities would be 0.01 and below the SCAQMD threshold of 0.5 excess cancer cases and would therefore be *less than significant for all residential receptors due to construction activities*.

The mitigated chronic health impact would be 0.01, based on a proposed Project-related maximum annual diesel concentration of 0.03 μg/m^3 (per dispersion modeling analysis) or 0.03 μg/m^3/5.0 μ g/m^3, which is 0.01. The chronic health impact due to construction activities would be below the Project-level threshold of 1 and would therefore be *less than significant for all residential receptors due to construction activities*.

Health Impacts at Off-site School/Daycare Due To Construction Activities

As shown in **Table 19: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for a school/daycare receptor would be 2.5 per one million persons. Thus, the cancer risk for school/daycare receptors due to construction activities would be potentially above the SCAQMD threshold of 10 per one million persons and would be *less than significant for all off-site school/daycare receptors due to construction activities*.

The maximum unmitigated chronic health impact for an off-site school/daycare receptors would be 0.01. Thus, the chronic health impact due to construction activities for all off-site school/daycare receptors would be below the Project-level threshold of 1 and the chronic health impact would be *less than significant for all off-site school/daycare receptors due to construction activities*.

As shown in **Table 20: Estimated Mitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions (see **Section 7**) for a school/daycare receptor would be 0.7 per one million persons (using **Mitigation Measures AQ-1 through AQ-13**).[46] In addition to the identified off-road equipment mitigation measures, additional measures for ventilation systems at certain schools and daycare facilities is provided to assist in maintaining adequate air quality. Thus, the cancer risk for school/daycare receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all school/daycare receptors due to construction activities*.

The maximum mitigated chronic health impact for all school/daycare receptors would be 0.01. Thus, the chronic health impact due to construction activities for all school/daycare receptors would be below the Project-level threshold of 1 and the chronic health impact would be *less than significant for all school/daycare receptors due to construction activities*.

46 Primarily due to construction activities during year 3 and 4 associated with Phase 2 and 3.

Health Impacts at Off-site Workers Due To Construction Activities

As shown in **Table 19: Estimated Unmitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from unmitigated proposed Project construction emissions for an off-site worker receptor (such as office buildings, retail centers, hotels, hospitals) would be 0.6 per one million persons. Thus, the cancer risk for off-site worker receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all off-site worker receptors due to construction activities*.

The maximum unmitigated chronic health impact modeled to occur at an off-site worker receptor would be 0.01. Thus, the chronic health impact due to construction activities at all off-site worker receptors would be below the Project-level threshold of 1 and would be *less than significant for all off-site worker receptors due to construction activities*.

As shown in **Table 20: Estimated Mitigated Health Impacts from Construction Activities for Morning/Night Scenario**, the maximum cancer risk from mitigated proposed Project construction emissions for an off-site worker receptor would be 0.2 per one million persons. Thus, the cancer risk for off-site worker receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant health impacts for all off-site worker receptors due to construction activities*.

The maximum mitigated chronic health impact modeled to occur at an off-site worker receptor would be 0.01. Thus, the chronic health impact due to construction activities at all off-site worker receptors would be below the Project-level threshold of 1 and would be *less than significant for all off-site worker receptors due to construction activities*.

Summary of Health Risk Assessment Results

The following concluding statements can be made about the health risk assessment results:

- The cancer risk for residential receptors due to construction activities would be potentially above the SCAQMD threshold of 10 per one million persons and would be *less than significant for residential receptors due to construction activities with mitigation*.
- The cancer risk for all school/daycare receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be *less than significant for school/daycare receptors due to construction activities*.
- The cancer risk for off-site worker receptors due to construction activities would be below the SCAQMD threshold of 10 per one million persons and would be l*ess than significant health impacts for all off-site worker receptors due to construction activities*.

- Generally (it depends on receptor location), the cancer risk due to construction activities would be potentially greater for the morning/night scenario compared to the morning/evening scenario and those adverse impacts would extend over a larger area near the Project alignment. This may have something to do with the morning/night scenario having a greater intensity than the morning/evening especially during overnight hours which tend to exhibit calm, stagnant air flow conditions and thus, higher pollutant concentrations.

11.0 GREENHOUSE GAS EMISSIONS

"Global warming" and "global climate change" are the terms used to describe the increase in the average temperature of the earth's near-surface air and oceans since the mid-20th century and its projected continuation. Warming of the climate system is now considered to be unequivocal (IPCC, 2007), with global surface temperature increasing approximately 1.33 degrees Fahrenheit (°F) over the last 100 years. Continued warming is projected to increase global average temperature between 2 and 11°F over the next 100 years.

Natural processes and human actions have been identified as the causes of this warming. The International Panel on Climate Change (IPCC) concludes that variations in natural phenomena such as solar radiation and volcanoes produced most of the warming from pre-industrial times to 1950 and had a small cooling effect afterward. After 1950, however, increasing GHG concentrations resulting from human activity such as fossil fuel burning and deforestation have been responsible for most of the observed temperature increase. These basic conclusions have been endorsed by more than 45 scientific societies and academies of science, including all of the national academies of science of the major industrialized countries. Since 2007, no scientific body of national or international standing has maintained a dissenting opinion.

Increases in GHG concentrations in the earth's atmosphere are thought to be the main cause of human-induced climate change. GHG naturally trap heat by impeding the exit of solar radiation that has hit the earth and is reflected back into space. Some GHG occur naturally and are necessary for keeping the earth's surface inhabitable. However, increases in the concentrations of these gases in the atmosphere during the last 100 years have decreased the amount of solar radiation that is reflected back into space, intensifying the natural greenhouse effect and resulting in the increase of global average temperature.

Gases that trap heat in the atmosphere are referred to as GHG because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHG has been implicated as the driving force for global climate change. The primary GHG are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O), ozone, and water vapor.

While the presence of the primary GHG in the atmosphere are naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas methane results from off-gassing associated with agricultural practices and landfills. Other GHG include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. Greenhouse gases are typically reported in "carbon dioxide-equivalent" measures (CO_2e).[47]

There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts may include, but are not limited to, loss in snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Transit and Intercity Rail Capital Program (TIRCP)

The Transit and Intercity Rail Capital Program (TIRCP) was created by Senate Bill (SB) 862 (Chapter 36, Statutes of 2014) and modified by Senate Bill 9 (Chapter 710, Statutes of 2015) to provide grants from the Greenhouse Gas Reduction Fund to fund transformative capital improvements that will modernize California's intercity, commuter, and urban rail systems, and bus and ferry transit systems to reduce emissions of greenhouse gases by reducing congestion and vehicle miles traveled throughout California. The goal of the TIRCP is to provide monies to fund transformative capital improvements that modernize California's intercity rail, bus, ferry and rail transit systems to achieve the following objectives:

- Reduction in greenhouse gas emissions;
- Expand and improve rail service to increase ridership;
- Integrate the rail service of the State's various rail operations, including integration with the high-speed rail system; and
- Improve safety

City of Inglewood Energy Efficiency Climate Action Plan

An Energy Efficiency Climate Action Plan (EECAP) has been developed by the City of Inglewood (City).[48] The Inglewood EECAP serves as the roadmap for the City to reduce GHG emissions, create jobs, and prepare for the impacts of climate change on public health, infrastructure, the economy, ecosystems, and public spaces in the City. The EECAP builds on the goals and policies in the City's General Plan to further

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47 Because of the differential heat absorption potential of various GHG, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

48 City of Inglewood, Climate Action Plan, December 2015, Accessed July 6, 2020 at: http://www.southbaycities.org/sites/default/files/EECAP_Inglewood_Final_20151218.pdf and https://www.cityofinglewood.org/225/Sustainability.

the City's efforts to build health equity through the reduction of local GHG emissions, and to simultaneously ensure that the community is well prepared for the impacts of climate change.

The EECAP includes an inventory of the City's emissions, establish an emissions reduction target, and identifies City and community actions to reduce emissions. The City revised its existing 2005 GHG emissions inventory (baseline) with better transportation and solid waste data and compiled a 2012 inventory updates that allows the City to start assessing emissions trends over time while the interim years (2007 and 2010) provide context and may help identify trends or anomalies.

From 2005 to 2010, emissions decreased by over 2 percent. This reduction trend continued into the most recent 2012 inventory update year, with total emissions having decreased an additional 2 percent between 2010 and 2012. The Transportation sector was the largest contributor to emissions in both 2005 (48 percent) and 2012 (52 percent) by producing 287,372 MT CO_2e in 2005 and 294,376 MT CO_2e in 2012. This change represents a 2.4 percent increase in emissions from 2005 to 2012. Commercial/Industrial energy is the second-largest contributor to emissions, adding 23 percent in 2005 and 20 percent in 2012. While the proportion of emissions did not change significantly over time, the total emissions decreased by about 14 percent from 2005 to 2012, from 133,521 MT CO_2e to 114,719 MT CO_2e. The proportion of emissions from the Residential sector was also steady, at 21 percent in 2005 and 22 percent in 2012, with total emissions increased by less than 1 percent, from 124,844 MT CO_2e in 2005 to 125,250 MT CO_2e in 2012. Solid waste comprised 4 percent of the total (26,385 MT CO_2e) in 2005, but was reduced to 3 percent of the total (17,889 MT CO_2e) in 2012. Water, Wastewater, and Off-road sources made up the remaining emissions in each year. Water, Wastewater, and Off-Road Sources emissions declined from 2005 to 2012. Off-road sources comprise a very small percentage of overall emissions but are variable primarily due to construction-related emissions, which are based on the level of development estimated in the City each year. Other metrics used in the ECAP to evaluate emissions progress include emissions per resident and per service population (residents + jobs); both metrics also show a declining emissions trend over time, of about 3 percent between 2005 and 2012.

California Green Building Standards Code

The California Green Building Standards Code or CALGreen is a regulatory code for all residential, commercial, and school buildings to meet uniform standards in building design intended to minimize impacts on climate change.

CALGreen does not prevent a local jurisdiction from adopting a more stringent code, as State law provides methods for local enhancements. CALGreen recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. CALGreen also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard, which buildings need to meet in order to be certified for occupancy. Enforcement is generally done by the local building official.

The development of CALGreen is intended to cause a reduction in GHG emissions from buildings; promote environmentally responsible, cost-effective, healthier places to live and work; reduce energy and water consumption; and respond to directives issued by the Governor, such as Assembly Bill 32, calling for the reduction of Statewide GHG emissions to 1990 levels by 2020. In short, CALGreen was established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impacts during and after project construction.

CALGreen contains requirements for construction site selection, storm water control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. CALGreen provides for design options allowing a project designer to determine how best to achieve compliance for a given site or building condition. CALGreen also requires building commissioning, which is a process for verifying that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

California Environmental Quality Act and Climate Change

Under CEQA, lead agencies are required to disclose the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHG emissions have the potential to affect the environment because they contribute to global climate change. In turn, global climate change has the potential to cause sea level rise, alter rainfall and snowfall patterns, and affect habitat.

Executive Order S-3-05

Governor Schwarzenegger established Executive Order S-3-05 in 2005, in recognition of California's vulnerability to the effects of climate change. Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHG would be progressively reduced, as follows:

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

The executive order directed the Secretary of the CalEPA to coordinate a multiagency effort to reduce GHG emissions to the target levels. The Secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of CalEPA created the California Climate Action Team, made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on Statewide GHG emissions. AB 32 requires that Statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a Statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce Statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the State reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce Statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations to achieve reductions in GHG to meet the 1990 emissions cap by 2020.

Climate Change Scoping Plan

AB 32 required CARB to develop a Scoping Plan that describes the approach California will take to reduce GHG to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan was first approved by CARB in 2008 and must be updated every five years. The initial AB 32 Scoping Plan contains the main strategies California will use to reduce the GHG that cause climate change. The initial Scoping Plan has a range of GHG reduction actions which include direct regulations, alternative compliance mechanisms, monetary and nonmonetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 program implementation fee regulation to fund the program. In August 2011, the initial Scoping Plan was approved by CARB.

The 2013 Scoping Plan Update builds upon the initial Scoping Plan with new strategies and recommendations. The 2013 Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The 2013 Update defines CARB climate change priorities for the next five years and sets the groundwork to reach California's long-term climate goals set forth in Executive Orders S-3-05 and B-16-2012. The 2013 Update highlights California progress toward meeting the near-term 2020 GHG emission reduction goals defined in the initial Scoping Plan. In the 2013 Update, nine key focus areas were identified (energy, transportation, agriculture, water, waste management, and natural and working lands), along with short-lived climate pollutants, green buildings, and the cap-and-trade program. On May 22, 2014, the First Update to the Climate Change Scoping Plan was approved by the Board, along with the finalized environmental documents. The 2017 Scoping Plan, approved on December 14, 2017, outlines options to meet California's aggressive goals to reduce GHGs by 40 percent below 1990 levels by 2030.

Executive Order No. B-30-15

On April 29, 2015, Executive Order No. B-30-15 was issued to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. Executive Order No. B-30-15 sets a new, interim, 2030 reduction goal intended to provide a smooth transition to the existing ultimate 2050 reduction goal set by Executive Order No. S-3-05 (signed by Governor Schwarzenegger in June 2005). It is designed so State agencies do not fall behind the pace of reductions necessary to reach the existing 2050 reduction goal. Executive Order No. B-30-15 orders "All State agencies with jurisdiction over sources of GHG emissions shall implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 targets." The Executive Order also states that "CARB shall update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent." The CARB is currently moving forward with a second update to the Climate Change Scoping Plan to reflect the 2030 reduction target. The updated Scoping Plan will provide a framework for achieving the 2030 target. In September of 2016, the AB 32 was extended to achieve reductions in GHG of 40 percent below 1990 levels by 2030. The new plan, outlined in SB 32, involves increasing renewable energy use, putting more electric cars on the road, improving energy efficiency, and curbing emissions from key industries.

Greenhouse Gas Regional Emission Estimates

In 2018, the United States emitted about 6,677 million metric tons of CO_2. Emissions increased from 2017 to 2018 by 3.1 percent. Greenhouse gas emissions in 2018 (after accounting for sequestration from the land sector) were 10.2 percent below 2005 levels. This increase was largely driven by an increase in emissions from fossil fuel combustion, which was a result of multiple factors, including more electricity use greater due to greater heating and cooling needs due to a colder winter and hotter summer in 2018 in comparison to 2017.[49]

In 2017, California emitted approximately 424 million metric tons of CO_2e, five million metric tons of CO_2e lower than 2016 levels and seven million metric tons of CO_2e below the 2020 GHG Limit of 431 million metric tons of CO_2e. Consistent with recent years, these reductions have occurred while California's economy has continued to grow and generate jobs. Compared to 2016, California's GDP grew 3.6 percent while the carbon intensity of its economy declined by 4.5 percent.

The transportation sector remains the largest source of GHG emissions in the State, but saw a one percent increase in emissions in 2017, the lowest growth rate over the past four years.[50]

The composition of GHG emissions in California (expressed as CO_2e) were as follows:

- CO_2 accounted for 83 percent;
- CH_4 accounted for nine percent;
- N_2O accounted for three percent; and
- Fluorinated gases (hydrofluorocarbons (HFCs), perfluorinated compounds (PFCs), and sulfur hexafluoride (SF_6)) accounted for five percent.

Of these gases, the transportation is the source of approximately 40 percent of the State's GHG emissions. The annual increase in transportation emissions in 2017 has slowed down slightly compared to the previous three years. Emissions from the electricity sector account for 15 percent of the inventory and show another large drop in 2017 due to a large increase in renewable energy. For the first time since California started to track GHG emissions, California uses more electricity from zero-GHG sources (for the purpose of the GHG inventory, these include hydro, solar, wind, and nuclear energy) than from GHG-emitting sources for both in-state generation and total (in-state plus imports) generation in 2017. The industrial sector has seen a slight emissions decrease in the past few years, and remains at 21 percent of the inventory.[51]

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49 United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks,* Accessed July 6, 2020 at https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.

50 California Air Resources Board, *Emissions Trends Report 2000-2017*, July 11, 2018, Accessed July 6, 2020 at:https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

51 California Air Resources Board, *Emissions Trends Report 2000-2017*, July 11, 2018, Accessed July 6, 2020 at:https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf

Thresholds of Significance

The standards of significance applied to the analysis of potential GHG impacts are based on Appendix G of the *CEQA Guidelines.* According to Appendix G evaluation thresholds, the proposed Project would be considered to have significant air quality impacts if it were to:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant effect on the environment; or
- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

For the proposed Project, the City is using the SCAQMD, 10,000 MT CO_2e per year industrial project screening threshold as the significance threshold in addition to the qualitative thresholds of significance from *Section VII of Appendix G to the CEQA Guidelines*. However, this threshold has not been adopted by the SCAQMD for use in CEQA documents.

The estimated construction GHG emissions for the proposed Project are 14,348 metric tons of CO_2e, which corresponds to 1,413,632 gallons of diesel fuel.[52] Given the five year construction period, the annual construction GHG emissions for the proposed Project are 2,870 metric tons of CO_2e, which corresponds to 282,726 gallons of diesel fuel per year. As indicated, 50-year amortized construction related GHG emissions would be approximately 287 metric tons of CO_2e per year. The results of the comparison are presented in **Table 21: Estimated Construction Greenhouse Gas Emissions for the Proposed Project**.

Table 21
Estimated Construction Greenhouse Gas Emissions for the Proposed Project

Construction Year	CO_2e Metric Tons
2022	4,698
2023	4,328
2024	3,521
2025	1,361
2026	440
Total Construction Emissions	**14,348**
Total 50-Year Amortized Construction Emissions	**287**

Source: RCH Group, 2020

52 Fuel usage is estimated using the output for CO2 and a 10.15 kg-CO2/gallon conversion factor, as cited in the *U.S. Energy Information Administration Voluntary Reporting of Greenhouse Gases Program*, https://www.eia.gov/environment/pdfpages/0608s(2009)index.php.

An Energy Efficiency Climate Action Plan, as discussed previously, has been developed by the City regarding the reduction of GHG emissions.[53] The City EECAP is designed to achieve the goal for GHG emissions reductions by 40 percent before 2030 and thus, adhere to the AB 32 goals. The proposed Project would result in a significant impact if it would be in conflict with AB 32 State goals.

The proposed Project would be subject to all applicable permit and planning requirements in place or adopted by the City, the County, and the State of California at the time that building permits are issued. The proposed Project would be consistent with City and County plans, policies, and regulations for reduction of GHGs, and would therefore also be consistent with AB 32 and other Statewide goals for GHG reduction. Thus, the proposed Project would have a *less-than-significant impact* related to a conflict with a GHG reduction plan.

12.0 OPERATIONAL EMISSIONS INVENTORY

The proposed Project would consist of an automated people mover (APM) on an elevated guideway that runs approximately 1.6 miles along Market Street between Florence Avenue and Manchester Boulevard, where it transitions east along Manchester Boulevard for approximately half a mile to Prairie Avenue for approximately one mile. The proposed Project will increase transit ridership throughout the region, reduce vehicle miles traveled (VMT), criteria air pollutants, and GHG emissions, and improve air quality throughout the South Coast Air Basin. The proposed Project would also include a MSF to provide regular and preventive maintenance for the APM trains and well as for vehicle storage, and an operations control center. The MSF building will be approximately 78,000 square feet (SF) and will be elevated (to match the track elevation). Up to 300 vehicular parking spaces at-grade for public use will be available. Each of the three stations will be 8,000 square feet. Components of the proposed Project (such as APM Propulsion and Control Systems and Stations and parking facilities) would utilize electrical energy for a whole range of function.

The air quality analysis of operations includes a review of criteria pollutant emissions such as CO, NO_x, SO_2, VOC as ROG, coarse particulate or PM_{10}, fine particulate or $PM_{2.5}$, as well as GHG emissions.

Regulatory models used to estimate air quality impacts and GHG emissions include:

- CARB's EMFAC[54]emissions inventory model. EMFAC is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in

53 *City of Inglewood, Climate Action Plan,* December 2015, Accessed July 6, 2020 at: http://www.southbaycities.org/sites/default/files/EECAP_Inglewood_Final_20151218.pdf and https://www.cityofinglewood.org/225/Sustainability.

54 California Air Resources Board, EMFAC2017 User's Guide, March 1, 2018, Accessed July 23, 2020 at: https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.pdf and https://www.arb.ca.gov/emfac/2017/.

California. This model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future.

- CalEEMod (California Emissions Estimator Model Version 2016.3.2)[55] land use emissions model estimates construction emissions due to demolition and construction activities and operational emissions.

Operations are expected to commence in 2026. Regulatory models used to estimate air quality emissions from proposed Project operations include the CARB EMFAC[56] emissions inventory model. Six operational scenarios were analyzed to evaluate the proposed Project operational emissions, as follows:

1. Adjusted Baseline (2016) Non-event Weekday without ITC Project
2. Adjusted Baseline (2016) Non-event Weekday with ITC Project
3. Year 2026 with Event Weekday without ITC Project
4. Year 2026 with Event Weekday with ITC Project
5. Year 2045 with Event Weekday without ITC Project
6. Year 2045 with Event Weekday with ITC Project

An Adjusted Baseline (2016) No Event and Existing Condition (2020) were also analyzed.

Supporting information for the operational emissions inventory are found in **Attachment E: Operational Air Emissions Inventory**. Emission sources associated with the Adjusted Baseline and Existing Condition include area sources (consumer products and landscaping), energy usage (natural gas), energy (electrical), and motor vehicles. Emission sources associated with the proposed project include area sources (consumer products and landscaping), energy usage (natural gas), energy (electrical for GHG only), standby generators, and motor vehicles (employee trips, deliveries and general public).

Adjusted Baseline

The Hollywood Park Specific Plan (HPSP) Adjusted Baseline projects would emit air pollutants associated with vehicle trips, maintenance operations, energy consumption, etc., from all of its operational land uses. Specifically, vehicle trips associated with activities at the HPSP would begin taking place during mid-2020 when the NFL Stadium begins operations and uses are operating on the HPSP site, which would have an impact on local and regional air quality. Accordingly, the air pollutant emissions associated with this

55 California Air Resources Board, *California Emissions Estimator Model User's Guide,* November 9, 2017, Accessed August 25, 2020 at: http://www.caleemod.com/.

56 California Air Resources Board, *EMFAC2017 User's Guide*, March 1, 2018, Accessed July 6, 2020 at: https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.pdf and https://www.arb.ca.gov/emfac/2017/.

development within the HPSP area are considered as part of the Adjusted Baseline. **Table 22: Adjusted Baseline Projects Characteristics** presents the characteristics of the Adjusted Baseline.

Table 22
Adjusted Baseline Projects Characteristics

Land Use	Adjusted Baseline Projects	ADT	Daily VMT
Retail	518,077 SF	18,400	362,480
General Office	466,000 SF	4,721	93,004
Multifamily Residential	314 units	1,708	33,648
NFL Stadium	70,240 seats (2,772,304 SF)	NA	NA
Perform. Venue	6,000 seats (40,800 SF)	NA	NA
Open Space	11.89 acre	NA	NA
Civic Use	4 acre	NA	NA

Source: Hollywood Park Specific Plan and Raju Associates, Inc., 2020
Based on trip distance of 19.7 miles; average within South Coast Air Basin

Table 23: Estimated Daily Emissions (pounds) for Adjusted Baseline Land Uses presents the daily criteria pollutant emissions for the Adjusted Baseline.

Table 23
Estimated Daily Emissions (pounds) for Adjusted Baseline Land Uses

Source	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Area (Consumer Products, Landscaping)	112	186	6.82	24.1	24.1	0.41
Energy (Natural Gas)	0.26	1.58	2.33	0.18	0.18	0.01
Motor Vehicles	36.9	1,258	134	52.9	22.4	3.58
Total	**149**	**1,445**	**143**	**77.2**	**46.7**	**4.00**

Source: RCH Group, 2020
Notes: Area sources and energy (natural gas) values based on CalEEMod and data within Table 22. Motor vehicle values based EMFAC and data within Table 22.

Table 24: Estimated Annual GHG Emissions (metric tons) for Adjusted Baseline Land Uses presents the annual GHG emissions for the Adjusted Baseline. The Adjusted Baseline emits 67,589 MT of CO_2e annually.

Table 24
Estimated Annual GHG Emissions (metric tons) for Adjusted Baseline Land Uses

Source	CO_2e
Area (Consumer Products, Landscaping)	106
Energy (Natural Gas)	477
Energy (Electrical)	4,379
Solid Waste	564
Water and Waste Water	1,092
Motor Vehicles	60,971
Total	**67,589**

Source: RCH Group, 2020

Notes: Area sources, water, waste, and energy (natural gas and electrical) values based on CalEEMod and data within Table 22. Motor vehicle values based EMFAC and data within Table 22.

Existing Condition

For the proposed Project, the first phase of construction would be the demolition of the commercial property for the Market Street Station, for the Vons Supermarket and gas station on Manchester, and for the commercial building on the southeast corner of Manchester and Market Street. **Table 25: Existing Condition Land Uses Characteristics** presents the characteristics of the Existing Condition.

Operation of these existing on-site businesses result in the emission of air pollutants associated with vehicle trips to and from the proposed Project, on-site combustion of natural gas for heating and cooking, and fugitive emissions of VOC from the use of aerosol products and coatings and landscaping. However, data with respect to the exact activity level (i.e., utility consumptions) at each business may not be obtainable, so existing emissions were based on land use characteristics and default values.

Table 25
Existing Condition Land Uses Characteristics

Property Address	Use Type	Quantity	ADT	Daily VMT
310 East Florence Ave	Restaurant	1,200 SF	101	1,990
300 East Florence Ave	Restaurant	4,762 SF	399	7,860
254 North Market St	Restaurant	4,608 SF	386	7,604
250 North Market St	Auto Service	44,000 SF	2,435	47,970
240 North Market St	Shopping Center	12,300 SF	492	9,692
230 North Market St	Store	22,194 SF	1,474	29,038
224 North Market St	Store	5,000 SF	3,811	75,077
222 North Market St	Shopping Center	25,500 SF	2,297	45,251
210 North Market St	Shopping Center	7,348 SF	294	5,792
150 South Market St	Store	16,575 SF	1,101	21,690
500 East Manchester Blvd	Supermarket	76,402 SF	8,158	160,713
510 East Manchester Blvd	Gas Station	202 SF	1,376	27,107

Source: Meridian Consultants, 2020

Table 26: Estimated Daily Emissions (pounds) for Existing Condition Land Uses presents the daily criteria pollutant emissions for the Existing Condition, which will be eliminated as a result of the proposed Project.

Table 26
Estimated Daily Emissions (pounds) for Existing Condition Land Uses

Source	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Area (Consumer Products, Landscaping)	4.92	0.02	<0.01	<0.01	<0.01	<0.01
Energy (Natural Gas)	0.16	1.22	1.45	0.11	0.11	0.01
Motor Vehicles	33.2	1,131	120	47.6	20.1	3.22
Total	**38.3**	**1,132**	**122**	**47.7**	**20.2**	**3.23**

Source: RCH Group, 2020

Notes: Area sources and energy (natural gas and electrical) values based on CalEEMod and data within Table 25. Motor vehicle values based EMFAC and data within Table 25.

Table 27: Estimated Annual GHG Emissions (metric tons) for Existing Condition Land Uses presents the annual GHG emissions for the Existing Condition, which will be eliminated as a result of the proposed Project. The Existing Condition emits 57,262 MT of CO_2e annually.

Table 27
Estimated Annual GHG Emissions (metric tons) for Existing Condition Land Uses

Source	CO_2e
Area (Consumer Products, Landscaping)	<1
Energy (Natural Gas)	291
Energy (Electrical)	1,511
Solid Waste	485
Water and Waste Water	155
Motor Vehicles	54,819
Total	**57,262**

Source: RCH Group, 2020

Notes: Area sources, water, waste, and energy (natural gas and electrical) values based on CalEEMod and data within Table 25. Motor vehicle values based EMFAC and data within Table 25.

Proposed Project

Table 28: Daily and Annual VMT for the Six Operational Scenarios presents the daily and annual VMT for the six operational scenarios with and without the proposed Project. As shown, the proposed Project daily and annual VMT are less than the daily and annual VMT without the proposed Project.

Table 28
Daily and Annual VMT for the Six Operational Scenarios

Scenario	Daily VMT	Annual VMT
Adjusted Baseline (2016) Non-event Weekday without ITC Project	3,159,055	1,007,356,937
Adjusted Baseline (2016) Non-event Weekday with ITC Project	3,138,289	1,000,735,086
Year 2026 with Event Weekday without ITC Project	5,275,088	1,346,432,106
Year 2026 with Event Weekday with ITC Project	5,047,349	1,316,518,609
Year 2045 with Event Weekday without ITC Project	5,662,297	1,469,905,139
Year 2045 with Event Weekday with ITC Project	5,365,217	1,433,075,931

Source: Raju Associates, Inc., 2020

Table 29: Estimated Daily Operational Emissions (pounds) for Proposed Project for Motor Vehicles presents the daily criteria air pollutant emissions for the six operational scenarios with and without the proposed Project. As shown, the proposed Project daily criteria air pollutant emissions are less than the daily criteria air pollutant emissions without the proposed Project.

Table 29
Estimated Daily Operational Emissions (pounds) for Proposed Project for Motor Vehicles

Scenario	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Adjusted Baseline (2016) Non-event Weekday without ITC Project	477	12,420	3,114	407	195	28.6
Adjusted Baseline (2016) Non-event Weekday with ITC Project	474	12,339	3,094	404	194	28.4
Year 2026 with Event Weekday without ITC Project	252	8,738	1,748	610	256	36.4
Year 2026 with Event Weekday with ITC Project	241	8,361	1,672	584	245	34.9
Year 2045 with Event Weekday without ITC Project	185	6,728	1,532	653	269	31.5
Year 2045 with Event Weekday with ITC Project	175	6,375	1,452	618	255	29.8
Incremental Change	**VOC**	**CO**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Adjusted Baseline Non-event Weekday with ITC Project vs Adjusted Baseline Non-event Weekday without ITC Project	(3.14)	(81.6)	(20.5)	(2.67)	(1.28)	(0.19)
Year 2026 with Event Weekday with ITC Project vs Year 2026 with Event Weekday without ITC Project	(10.9)	(377)	(75.5)	(26.3)	(11.1)	(1.57)
Year 2045 with Event Weekday with ITC Project vs Year 2045 with Event Weekday without ITC Project	(9.71)	(353)	(80.4)	(34.2)	(14.1)	(1.65)
Significance Threshold	55	550	55	150	55	150

Source: RCH Group, 2020
Note: Based on EMFAC and data within Table 28

Table 30: Estimated Daily Emissions (pounds) for Proposed Project presents the daily criteria air pollutant operational emissions under normal operations including the standby generators, employee trips, deliveries, area sources, energy sources (natural gas), motor vehicle, while accounting for the reduction in motor vehicle as a result of the proposed Project and elimination of Existing sources. **Table 30** presents the typical daily emissions associated with the proposed Project operations (e.g., 1.53 pounds of NOx). **Table 30** also presents the typical daily emissions plus O&M for the standby generators (one generator

tested per day for 2 hours) associated with the proposed Project operations (e.g., 126 pounds of NOx). **Table 30** also presents the daily emissions plus O&M while accounting for the reduction in air emissions due to the reduction in motor vehicle (see **Table 29: Estimated Daily Operational Emissions (pounds) for Proposed Project for Motor Vehicles**) resulting from the proposed Project (e.g., 50.7 pounds of NOx). Lastly, **Table 30** presents the daily emissions plus O&M while accounting for the reduction in air emissions due to the reduction in motor vehicle and the elimination of existing emission sources (see **Table 26: Estimated Daily Emissions (pounds) for Existing Condition Land Uses**) resulting from the proposed Project (e.g., a reduction of 71.1 pounds of NOx). Therefore, the proposed Project operations would have a *less than significant (and beneficial) impact on air quality*.

Table 30
Estimated Daily Emissions (pounds) for Proposed Project

Source	VOC	CO	NO_x	PM_{10}	$PM_{2.5}$	SO_2
Employee Trips	0.29	9.23	0.52	0.60	0.25	0.03
Deliveries	0.03	0.33	0.43	0.08	0.04	0.01
Area (Consumer Products, Landscaping)	2.33	0.04	<0.01	<0.01	<0.01	<0.01
Energy Source (Natural Gas)	0.06	0.48	0.57	0.04	0.04	<0.01
Subtotal Project (Typical Operations)	**2.72**	**10.1**	**1.53**	**0.73**	**0.33**	**0.04**
Emergency Generators	4.26	11.8	125	0.95	0.95	8.68
Subtotal Project (Typical Operations + O&M)	**6.98**	**21.9**	**126**	**1.67**	**1.28**	**8.72**
Motor Vehicles	-10.9	-377	-75.5	-26.3	-11.1	-1.57
Subtotal (Project with Motor Vehicle Reductions)	**-3.89**	**-355**	**50.7**	**-24.7**	**-9.79**	**7.15**
Existing Condition	-38.3	-1,132	-122	-47.7	-20.1	-3.23
Grand Total (Project)	**-42.1**	**-1,488**	**-71.1**	**-72.3**	**-29.9**	**3.92**
Significance Threshold	55	550	55	150	55	150
Exceeds Threshold?	No	No	No	No	No	No

Source: RCH Group, 2020

Notes: Standby generator values based on vender specifications. Employee trips and deliveries values based on EMFAC. Area sources and energy (natural gas) values based on CalEEMod. Motor vehicle values based on Table 29. Existing Condition values based on Table 26.

Table 31: Estimated Annual Operational GHG Emissions (metric tons) for Proposed Project for Motor Vehicles presents the annual GHG emissions for the six operational scenarios with and without the proposed Project. As shown, the proposed Project annual GHG emissions are less than the daily criteria air pollutant emissions without the proposed Project.

Table 31
Estimated Daily Operational Emissions (pounds) for Proposed Project for Motor Vehicles

Scenario	CO_2
Adjusted Baseline (2016) Non-event Weekday without ITC Project	430,621
Adjusted Baseline (2016) Non-event Weekday with ITC Project	427,791
Year 2026 with Event Weekday without ITC Project	441,490
Year 2026 with Event Weekday with ITC Project	431,682
Year 2045 with Event Weekday without ITC Project	390,262
Year 2045 with Event Weekday with ITC Project	380,484
Incremental Change	**CO_2**
Adjusted Baseline Non-event Weekday with ITC Project vs Adjusted Baseline Non-event Weekday without ITC Project	-2,831
Year 2026 with Event Weekday with ITC Project vs Year 2026 with Event Weekday without ITC Project	-9,809
Year 2045 with Event Weekday with ITC Project vs Year 2045 with Event Weekday without ITC Project	-9,778

Source: RCH Group, 2020
Note: Based on EMFAC and data within Table 28

Table 32: Estimated Annual GHG Emissions (metric tons) for Proposed Project presents the annual GHG emissions. The proposed Project operations would have a *less than significant (and beneficial) impact on GHG emissions*. The proposed project would result in a reduction of 59,016 MT of CO_2e annually during operations.

Table 32
Estimated Annual GHG Emissions (metric tons) for Proposed Project

Source	Annual GHG
Employee Trips	559
Deliveries	90
Area (Consumer Products, Landscaping)	0
Energy (Natural Gas)	114
Energy Source (Electrical)	6,800
Solid Waste	49
Water and Waste Water	130
Subtotal Project (Typical Operations)	**7,743**
Emergency Generators	311
Subtotal Project (Typical Operations + O&M)	**8,054**
Motor Vehicles	-9,809
Subtotal (Project with Motor Vehicle Reductions)	**-1,755**
Existing Condition	-57,262
Grand Total (Project)	**-59,016**

Source: RCH Group, 2020
Notes: Standby generator values based on vender specifications. Employee trips and deliveries values based on EMFAC. Area sources and energy (Natural Gas) values based on CalEEMod. Motor vehicle values based on Table 31. Existing Condition value based on Table 27. Energy (Electrical) is based on CalEEMod for MSF plus APM usage of 27,114,390 kWh along with an SCE emission factor of 535 pounds per MWh.

The City has developed a set of broad sustainability strategies included as part of the Design Guidelines to be incorporated into the design, construction, and operations of each proposed Project component. These guidelines align with Inglewood's commitment to sustainability City-wide, as outlined in the City's Energy and Climate Action Plan and Energy Efficiency Climate Action Plan. These sustainability guidelines serve as a mechanism to promote the City's commitment to reduce its environmental footprint and promote energy efficient design requirements, water conservation and water quality improvement projects, natural resource protection efforts, waste reduction and recycling, and numerous air quality emissions reduction policies and programs.

For operational impacts, the proposed Project would comply with the requirements of California Green Building Standards Code (CALGreen) and be consistent with the City of Inglewood Energy Efficiency Climate Action Plan involving policies and programs related to sustainability, energy efficiency, and reduction in GHG emissions. The City has committed to taking an active role in promoting energy conservation and environmentally-friendly initiatives to improve the environment and realize the co-benefits, which include energy independence, cost savings for energy not used, water saved, improved air quality, and public health benefits from improved air quality.

The City has an ongoing commitment to increasing energy efficiency and implementing energy conservation measures to reduce wasteful, inefficient, and unnecessary consumption. The proposed Project would incorporate a number of sustainability features as listed in **Proposed Sustainability Guidelines** within the Project Description. These guidelines are intended to integrate the design of new and existing facilities and to create a passenger experience that reflects the City's history and architecture, while providing design guidance for new construction or modernization of the proposed Project. The City has committed to implementing, if feasible, various sustainability measures for different proposed Project elements that meet or exceed CALGreen requirements, including energy and water conservation measures, for each of the follow proposed Project components: an elevated guideway and stations and the MSF. The sustainability strategies relate to planning and design; energy efficiency and renewable energy; water efficiency and conservation; materials conservation and resource efficiency; and environmental quality.

Standby Generators

Additionally, the proposed Project would include up to two stationary standby generators with an estimated total capacity rated at approximately 4,000 kilowatts (kW) to provide emergency power primarily for lighting and other emergency building systems. Emergency generator emissions were calculated based on compliance with applicable federal emissions standards and compliance with SCAQMD Rule 1470 (Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines) mandated emission limits and operating hour constraints. This analysis also assumed that the standby generators would operate up to two hours per day and a total of 50 hours per year for testing and maintenance (per SCAQMD Rule 1470 limit). SCAQMD requires that all internal combustion engines (ICE) greater than 50 brake horsepower (bhp) and gas turbines greater than 2,975,000 Btu per hour obtain a permit to construct prior to installation of the engines at a site.

SCAQMD defines a standby ICE or turbine for non-utility power generation as one that does not operate more than 200 hours a year and is only operated in the event of an emergency power failure or for routine testing and maintenance is considered a standby backup generator for power generation. Operators should petition the SCAQMD's Hearing Board for a variance to operate in excess of the allowed 200 hours before it is anticipated that the hours may be exceeded.

- The internal combustion engines must meet SCAQMD's Best Available Control Technology (BACT) requirements.
- It is advisable before purchasing any equipment to consult with the SCAQMD and apply for approval of a Permit to Construct from the SCAQMD prior to installation of the engine. Typically, the SCAQMD either issues a Permit to Construct or a Permit to Construct/Operate.

The Project Applicant will implement the following operational equipment requirements and operation protocols for equipment operating at the proposed Project. These features would be included in applicable bid documents, and successful contractor(s) must demonstrate the ability to supply such equipment and comply with such protocols. Operational features would include the following:

- All standby generators used for proposed Project operations shall be selected from the SCAQMD certified generators list and meet applicable federal standards for diesel emissions. For after-treatment of engine exhaust air, a diesel particulate filter shall be provided to meet the emission level requirements of SCAQMD. The proposed Project would have two standby generators, each could operate up to two hours per day and a total of 50 hours per year for testing and maintenance (per SCAQMD Rule 1470 limit) to ensure reliability in the case of a power outage.
- The Applicant shall conduct maintenance and/or testing on the two standby generators on separate days.

Therefore, each standby generators would operates for 2 hours per day during 25 days per year for a total of 50 hours per year. Each standby generator shall be tested during different days. For emergency operation both generators would operate up to 2 hours each and could occur simultaneously.

Vender specifications were used to determine air pollutants emission factors for the standby generators. Emission factors are 5.27 g/hp-hour for NOx, 0.5 g/hp-hour for CO, 0.18 g/hp-hour for VOC, and 0.4 g/hp-hour for PM_{10}/$PM_{2.5}$. The estimated annual fuel usage assuming each generator operates of 50 hours per year (2 hours per day) is 27,440 gallons of diesel fuel.[57]

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57 Vender Specifications for Standby Generator, Accessed August 25, 2020 at: https://www.cat.com/en_US/products/new/power-systems/electric-power.html

Electrical Usage

Components of the proposed Project would utilize electrical energy for a whole range of function. During normal operation of the proposed TPSS at the MSF Site (TPSS 1) is estimated to have a peak power load flow of 2,008 kilowatts (kW) and normal operation of the proposed TPSS at the Transit Center TPSS (TPSS 2) is estimated to have a peak power load flow of 2,119 kW for a total of 4,127 kW. The proposed Project would operate for 18 hours per day which would generate a total electricity demand of 74,286 kWh per day or 27,114,390 kWh (27,114 Megawatts-hour or MWh) per year.[58] In the event TPSS 1 is unable to operate, TPSS 2 is estimated to have a peak power load of 4,152 kW which would generate a total electricity demand of 74,736 kWh per day or 27,278,640 kWh (27,279 MWh) per year. Similarly, in the event TPSS 2 is unable to operate, TPSS 1 is estimated to have a peak power load of 4,353 kW which would generate a total electricity demand of 78,354 kWh per day or 28,599,210 kWh (28,599 MWh) per year.

The electrical demand from the existing (but to be removed as part of the proposed Project) commercial, restaurant, and retail uses at the current commercial plaza at Florence and Market Street (proposed Market Street/Florence Avenue Station site) and the commercial plaza at 500 East Manchester Boulevard (proposed MSF site) is 5,110,987 kWh per year. Therefore, during normal operation, the electricity demand for the proposed Project results in a net increase of 22,003,403 kWh (22,003 MWh) per year. In the event TPSS-1 is unable to operate, the electricity demand for the proposed Project results in a net increase of 22,167,653 kWh (22,168 MWh) per year. In the event TPSS-1 is unable to operate, the electricity demand for the proposed Project results in a net increase of 23,488,223 kWh (23,488 MWh) per year. The electrical demand associated with the Adjusted Baseline is 16,507,545 kWh (16,508 MWh) per year.

Southern California Edison average CO_2e intensity factors for its total electricity mix is projected to be 0.173 $MTCO_2e$/MWh (or 535 pounds per MWh) and was used to determine the GHG emissions from the APM. Estimated GHG emissions from APM operations are the average CO_2e intensity factor (535 pounds per MWh) times the electrical usage (for example, 27,114 MWh for the proposed Project), which equals 6,580 metric tons.

13.0 SUMMARY

In summary, daily mitigated construction emissions would exceed the SCAQMD significance thresholds for NO_x during 2023 through 2025, as described in **Section 8**. These impacts are largely due to off-road construction equipment and to a much lesser degree due to off-site construction haul trucks. However,

58 Lea+Elliott, *Inc. Inglewood Transit Connector EIR Operating Systems Conceptual Planning EIR Project Definition DRAFT - June 2020 (See Appendix 3.0.1).*

during mitigated construction activities as presented in **Section 9**, the ambient air concentration impacts due to Project construction would be less than significant at all nearby receptors for all pollutants. Therefore, although the daily construction emissions for NO_x would potentially exceed the SCAQMD significance thresholds, but the resultant air concentrations would not likely exceed the SCAQMD significance thresholds. As shown in **Section 10**, during mitigated construction activities, incremental cancer risks would not exceed significance thresholds at existing residence, existing daycare/school and off-site worker locations. As shown in **Section 11**, the GHG emissions associated with construction activities would not likely exceed the SCAQMD significance thresholds. Daily operational emissions would less than significant compared to the SCAQMD significance thresholds. Once operational, the proposed Project will increase transit ridership throughout the region, reduce vehicle miles traveled and criteria air pollutants, GHG emissions, and improve air quality throughout the South Coast Air Basin (see **Section 12**). Therefore, short-term construction-related air quality impacts would occur but long-term operational-related air quality benefits would follow.

Attachment A

Dispersion Modeling Methodology and Assumptions

Dispersion is the process by which atmospheric pollutants disseminate due to wind and vertical atmospheric stability. The results of a dispersion analysis are used to assess pollutant concentrations at or near an emission source. The results of an analysis allow predicted concentrations of pollutants to be compared directly to air quality standards and other criteria such as health risks based on modeled concentrations.

A rising pollutant plume reacts with the environment in several ways before it levels off. First, the plume's own turbulence interacts with atmospheric turbulence to entrain ambient air. This mixing process reduces and eventually eliminates the density and momentum differences that cause the plume to rise. Second, the wind transports the plume during its rise and entrainment process. Higher winds mix the plume more rapidly, resulting in a lower final rise. Third, the plume interacts with the vertical temperature stratification of the atmosphere, rising as a result of buoyancy in the unstable-to-neutrally stratified mixed layer. However, after the plume encounters the mixing lid and the stably stratified air above, its vertical motion is dampened.

Molecules of gas or small particles injected into the atmosphere will separate from each other as they are acted on by turbulent eddies. The Gaussian mathematical model such as AERMOD simulates the dispersion of the gas or particles within the atmosphere. The formulation of the Gaussian model is based on the following assumptions:

- The predictions are not time-dependent (all conditions remain unchanged with time)
- The wind speed and direction are uniform, both horizontally and vertically, throughout the region of concern
- The rate of diffusion is not a function of position
- Diffusion in the direction of the transporting wind is negligible when compared to the transport flow

Air quality impacts were determined for United States Environmental Protection Agency (USEPA) criteria pollutants such as carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 micrometers (coarse or PM_{10}), and particulate matter less than 2.5 micrometers (fine or $PM_{2.5}$).

Dispersion Modeling Approach

Air dispersion modeling was performed to estimate the downwind dispersion of exhaust emissions resulting from construction activities and operations. The following sections present the fundamental components of an air dispersion modeling analysis including air dispersion model selection and options, receptor locations, meteorological data, source exhaust parameters, nitrogen oxides (NOx) to NO_2 conversion, and building downwash.

Model Selection and Options

AERMOD (Version 19191)[1] was used for the dispersion analysis. AERMOD is the USEPA preferred atmospheric dispersion modeling system for general industrial sources. The model can simulate point, area, volume, and line sources. AERMOD is the appropriate model for this analysis based on the coverage of simple, intermediate, and complex terrain. It also predicts both short-term and long-term (annual) average concentrations. The model was executed using the regulatory default options (stack-tip downwash, buoyancy-induced dispersion, and final plume rise), default wind speed profile categories, default potential temperature gradients, and assuming no pollutant decay.

The selection of the appropriate dispersion coefficients depends on the land use within three kilometers (km) of the project site. The types of land use were based on the classification method defined by Auer (1978); using pertinent United States Geological Survey (USGS) 1:24,000 scale (7.5 minute) topographic maps of the area. If the Auer land use types of heavy industrial, light-to-moderate industrial, commercial, and compact residential account for 50 percent or more of the total area, the USEPA *Guideline on Air Quality Models*[2] recommends using urban dispersion coefficients; otherwise, the appropriate rural coefficients can be used. Per South Coast Air Quality Management District (SCAQMD) guidance, urban dispersion coefficients were applied within AERMOD. For this project, all emissions sources were modeled with urban effects using the population of 9,818,605 for Los Angeles County.[3]

Receptor Locations

Some receptors are considered more sensitive to air pollutants than others, because of preexisting health problems, proximity to the emissions source, or duration of exposure to air pollutants. Land uses such as primary and secondary schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because the very young, the old, and the infirm are more susceptible to respiratory infections and other air quality-related health problems than the general public. Residential areas are also considered sensitive to poor air quality because people in residential areas are often at home for extended periods. Recreational land uses are moderately sensitive to air pollution because vigorous exercise

[1] United States Environmental Protection Agency, *AERMOD Modeling System*, Accessed July 7, 2020 at: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

[2] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations*, *Part 51*, *Appendix W*, November 2005, Accessed July 6, 2020 at: https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf.

[3] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

associated with recreation places having a high demand on respiratory system function. The CARB has identified the following people as most likely to be affected by air pollution: children less than 14 years of age, the elderly over 65 years of age, athletes, and those with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive population groups.

In accordance with SCAQMD guidance[4], modeled receptors for the health risk assessment (HRA) were placed at locations in which people are typically located for a period of time. The receptors for the HRA within a quarter-mile of the project site are as follows:

- Single- and multi-family residences along the project length.
- Off-site workers within industrial and commercial areas surrounding the project site.
- Recreational facilities such as Queen Park.
- Medical facilities such as Hillcrest Medical Center and Centinela Hospital Medical Center.
- Educational facilities such as Inglewood High School, Inglewood Junior Academy, George W Crozier Middle School, and Kelso Elementary School.
- Off-site daycare/childcare such as South Bay Child Development Center, Tender Care Child Development Center, A Bright Beginning Child Development Center, and Debbie's Child Development Center.

Figure A-1 displays the location of the nearby residential receptors. offsite workers, and other sensitive receptors used in the HRA. There are a total of 1,287 residential, offsite workers, and other sensitive receptors**. Figure A-2** displays the specific sensitive receptors within the northern portion of the project site. **Figure A-3** displays the specific sensitive receptors within the central portion of the project site. **Figure A-4** displays the specific sensitive receptors within the southern portion of the project site. **Figure A-5** displays the location of the receptors used in the air quality analysis for the criteria pollutants impacts. There are a total of 667 air quality criteria pollutant receptors plus the 1,287 sensitive receptors (see **Figure A-1**).

All receptors were set so that only ground-level concentrations were analyzed. Flagpole receptors are only necessary for analyses that have instances where sensitive receptors are located on patios/decks at nearby high-rise buildings.[5] Generally, the modeled concentrations would be highest at the ground-level due to the ground-level emissions associated with construction activities.

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[4] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

[5] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

FIGURE A-1
HEALTH RISK ASSESSMENT SENSITIVE RECEPTORS

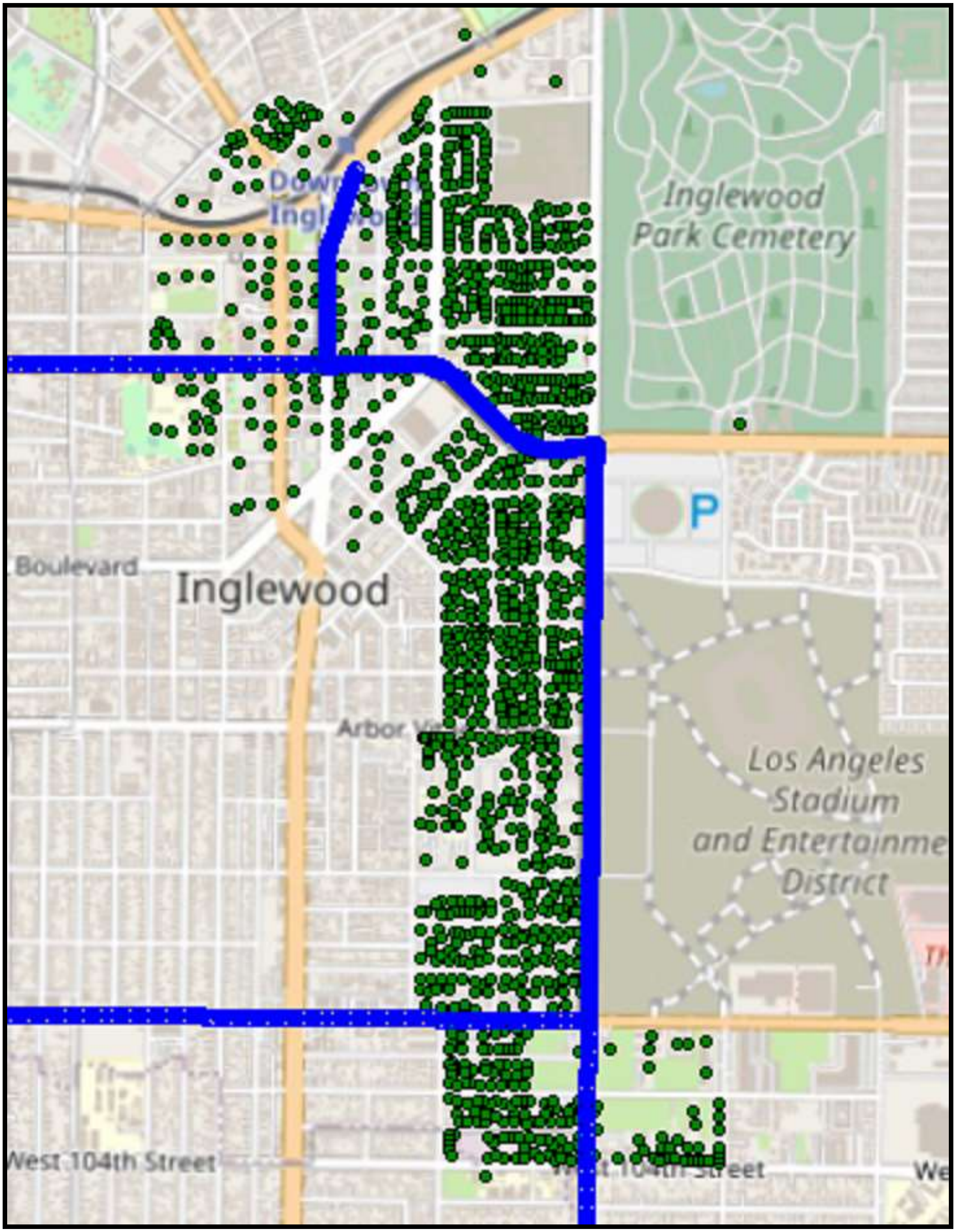
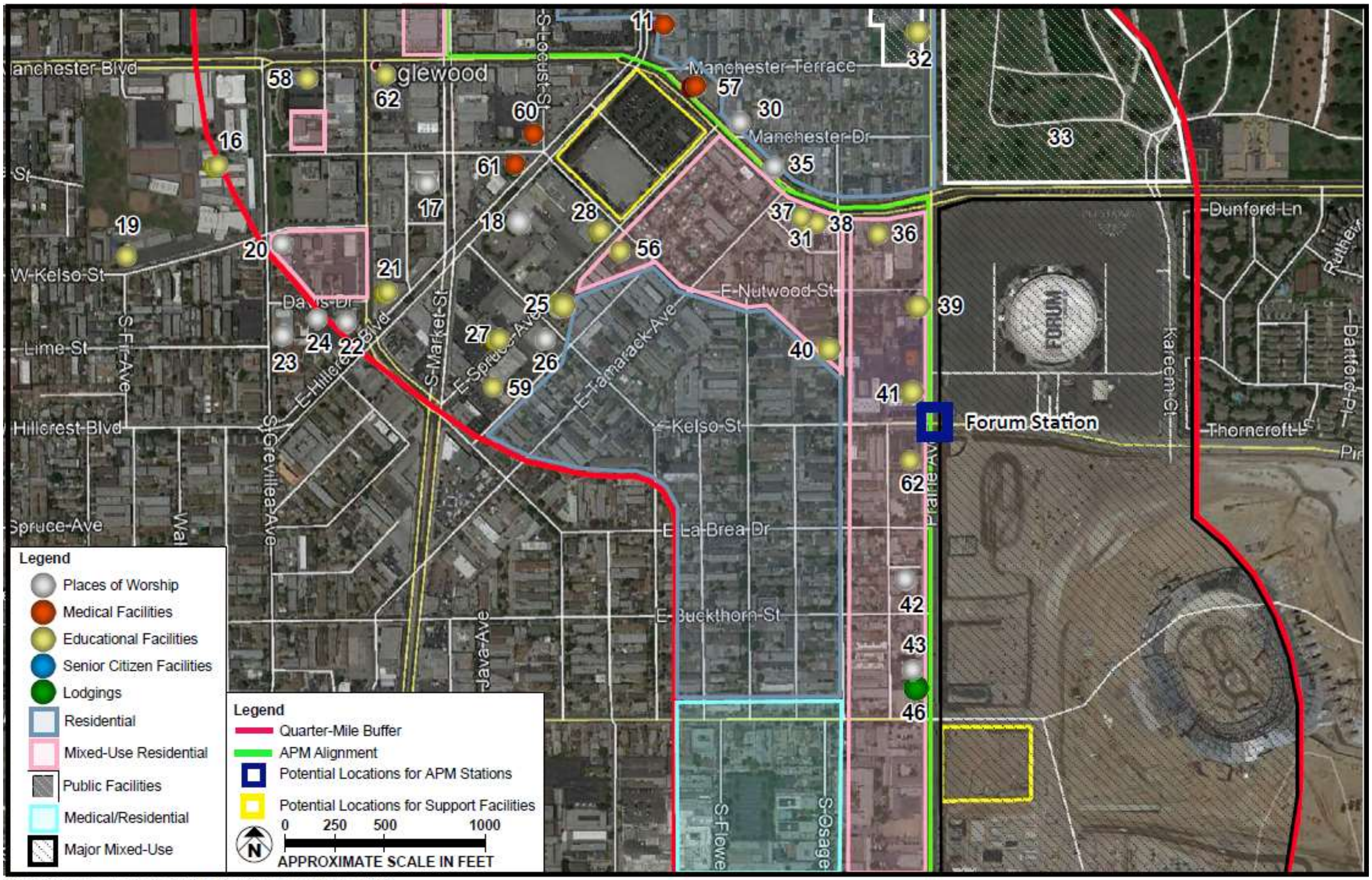


FIGURE A-2
HEALTH RISK ASSESSMENT SPECIFIC SENSITIVE RECEPTORS (NORTH)

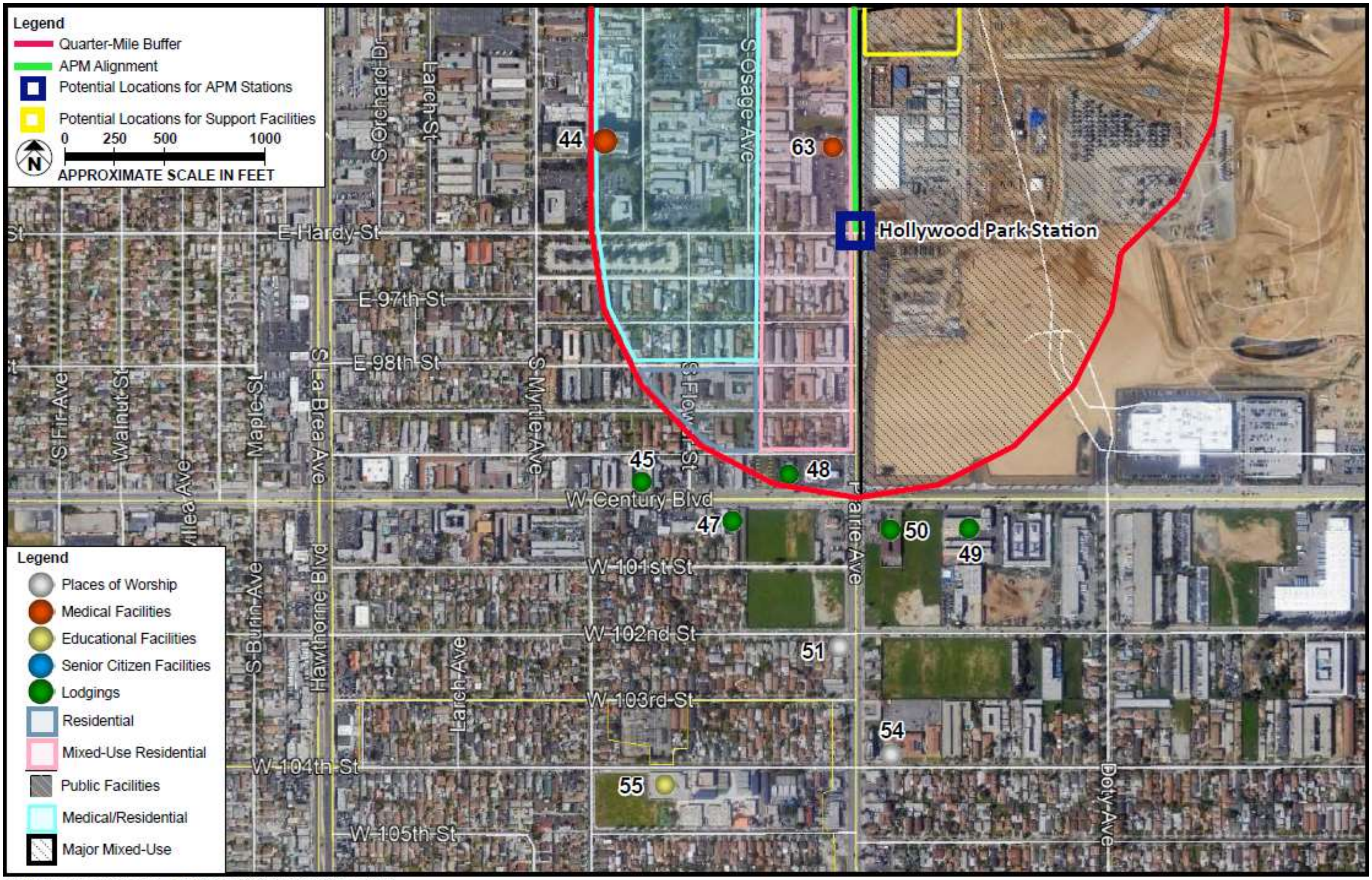
SOURCE: Google Earth - 2020: Meridian Consultants - 2020

FIGURE A-3
HEALTH RISK ASSESSMENT SPECIFIC SENSITIVE RECEPTORS (CENTRAL)



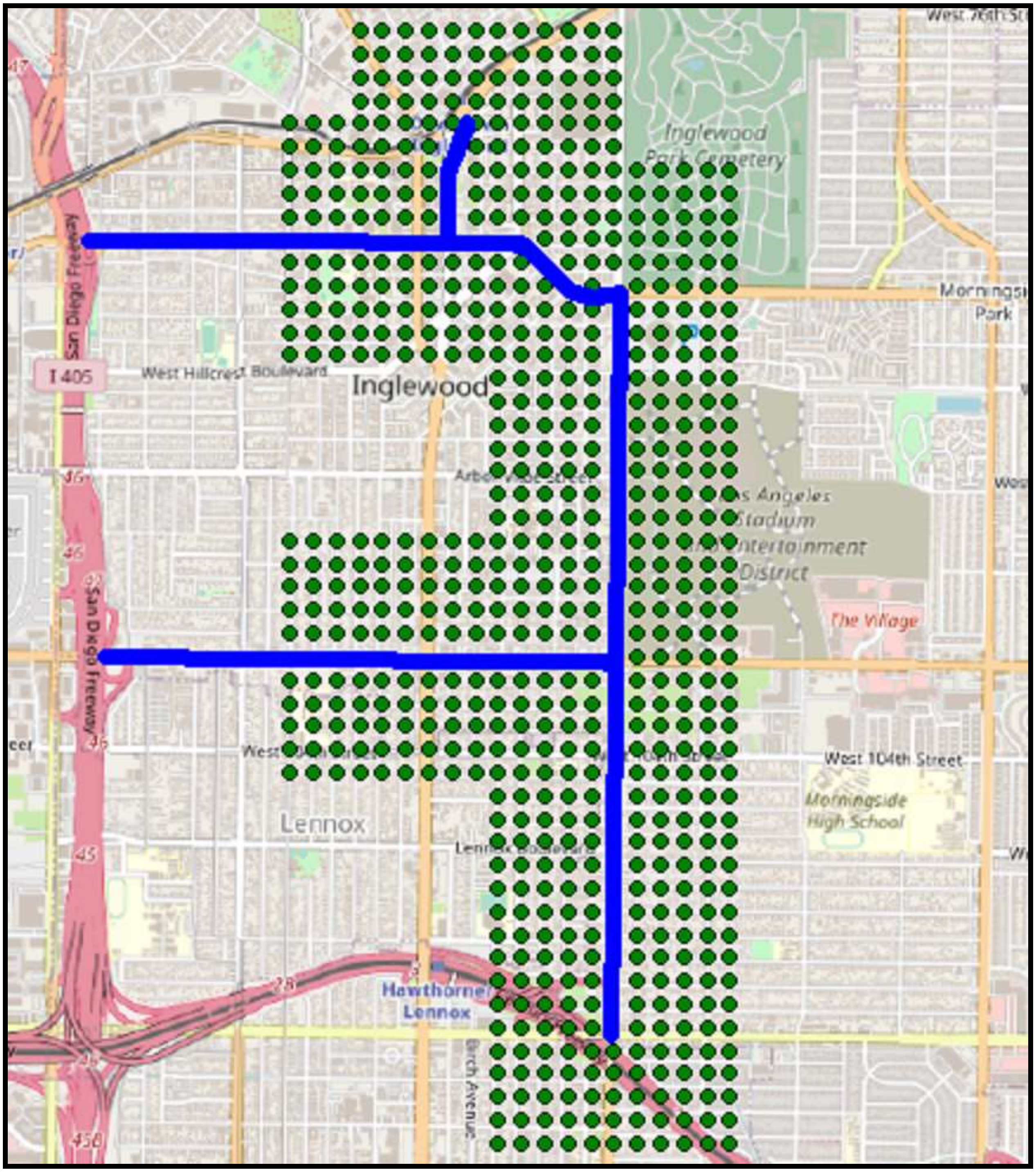
SOURCE: Google Earth - 2020; Meridian Consultants - 2020

FIGURE A-4
HEALTH RISK ASSESSMENT SPECIFIC SENSITIVE RECEPTORS (SOUTHERN)



SOURCE: Google Earth - 2020; Meridian Consultants - 2020

FIGURE A-5
AMBIENT AIR CONCENTRATION IMPACT RECEPTORS



The air quality analysis for the criteria pollutants (NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$) were evaluated at receptors where a person has access and can be situated for an hour or longer at a time. To identify the maximum impacted receptors, a uniform Cartesian grid with a spacing of 50 meters was used for all distances less than 500 meters and with a spacing of 100 meters for all distances less than 1,500 meters. The size of the modeling domain and placement of the receptors was at such a distance and resolution to identify the maximum impacts to the surrounding areas and the significant concentration gradients from the project emission sources.[6]

The AERMOD modeling system includes AERMAP (Version 11103)[7], which is a terrain data pre-processor. Terrain data, available from the United States Geological Survey (USGS), was used by AERMAP to produce terrain base elevations for each receptor and source and a hill height scale value for each receptor. The National Elevation Dataset (NED) data in GeoTIFF format was used as input into AERMAP instead of Digital Elevation Model (DEM) data. A resolution of one-arc-second (approximately 30 meters) or 1/3 arc-second (approximately 10 meters) was used. Elevations were imported for all emission sources, receptors, and buildings in the modeling analysis.

Meteorological Data

Air quality is a function of both the rate and location of pollutant emissions under the influence of meteorological conditions and topographic features affecting pollutant movement and dispersal. Atmospheric conditions such as wind speed, wind direction, atmospheric stability, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants, and consequently affect air quality.

Hourly meteorological data from Los Angeles International Airport, located approximately four miles to the west-southwest of the proposed project was used in the dispersion modeling analysis and health risk assessment. Meteorological data from 2012 through 2016 were used.[8] **Figure A-6** displays the annual wind rose. Wind directions are predominately from the west with a large frequency of light or moderate wind speed conditions, as shown in **Figure A-7**. The average annual wind speed is 7.8 miles per hour (3.5 meters per second).

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[6] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

[7] United States Environmental Protection Agency, AERMAP, Accessed July 7, 2020 at: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

[8] South Coast Air Quality Management District, *Meteorological Data for AERMOD,* Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod.

FIGURE A-6
WINDROSE FOR LOS ANGELES INTERNATIONAL AIRPORT

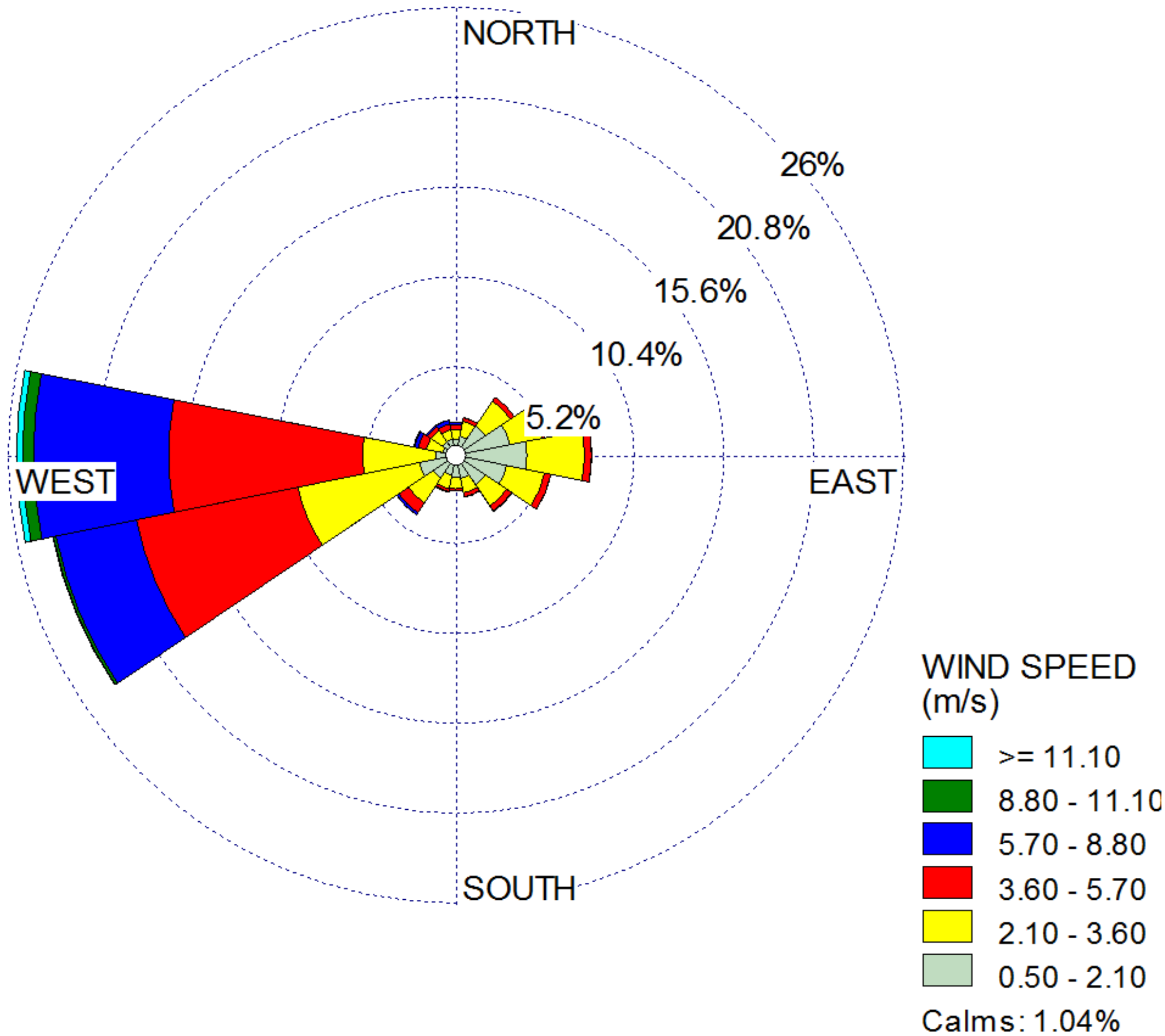
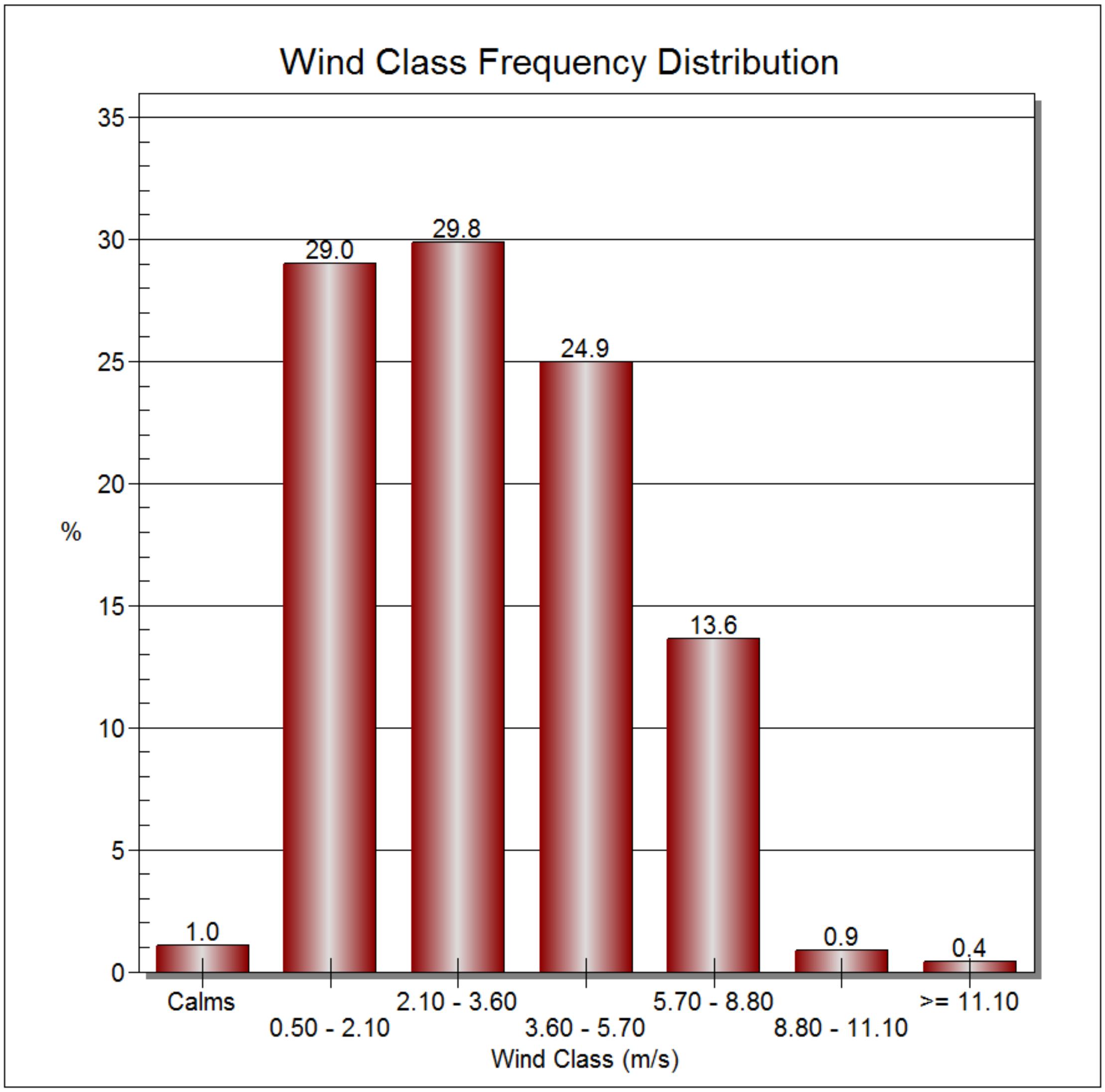


FIGURE A-7
WIND SPEED DISTRIBUTION FOR LOS ANGELES INTERNATIONAL AIRPORT



Source Release Characteristics

Construction equipment activities were treated as an area source. The release height of the off-road equipment exhaust was set to 3.05 meters and an initial vertical dimension of 4.15 meters. Offsite construction trucks were treated as a line source (i.e., volume sources placed at regular intervals) located along nearby roadways. The off-site construction trucks were assigned a release height of 3.05 meters and an initial vertical dimension of 4.15 meters, which accounts for dispersion from the movement of vehicles.[9] Terrain elevations for emission source locations were based on AERMAP (Version 11103).[10]

The primary delivery routes would utilize Florence Avenue, Manchester Boulevard, Prairie Avenue, and Century Boulevard which are currently in use by nearby projects within the two mile radius. For materials delivered to and stored at designated construction staging areas, the contractor haul routes to and from the project area would be generally on public streets. Some excavated dirt materials may be hauled at night, where possible, due to the congested freeways and surface streets around or near the excavation site during daytime hours. The contractor would develop an excavation plan that define haul routes, dust control, sweeping and disposal site.

Construction activity would primarily occur over a 16 hour / day schedule with two shifts, either a morning shift from approximately 7:00 a.m. to 3:00 p.m. or an evening shift from approx. 3:00 p.m. to 11:00 p.m., or a morning shift from approximately 7:00 a.m. to 3:00 p.m. and a night shift from approximately 11:00 p.m. to 7:00 a.m. Other minimal construction work could occur during other hours at a reduced intensity. Delivery of construction materials would occur during the night shift, as would most lane closures.

Temporal factors were used to describe the relationship of one period of time to another (i.e., the relationship of activity during one hour to activity in a 24-hour period). In AERMOD, temporal factors are applied to represent varying levels of activity as a fraction of a peak period. Using temporal factors gives the model the ability to more accurately reflect real world conditions. **Table A-1** shows the hourly construction profile which represents the construction intensity for each hour of the day relative to the peak hour. Construction activities would occur Monday through Sunday.

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[9] While haul truck emissions contribute minimally to overall project construction emissions, they also are spread over many miles. Hence, the portion of trucking emissions that would impact one receptor is much smaller than the emissions that the clustered off-road activity at the project site would impact a receptor near the site.

[10] United States Environmental Protection Agency, AERMAP, Accessed July 7, 2020 at: https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

TABLE A-1
HOURLY CONSTRUCTION PROFILE

	Hour	Morning/Evening Hourly Work Intensity	Morning/Night Hourly Work Intensity
Nighttime	12:00 AM – 1:00 AM	25%	50%
	1:00 AM – 2:00 AM	25%	50%
	2:00 AM – 3:00 AM	25%	50%
	3:00 AM – 4:00 AM	25%	50%
	4:00 AM – 5:00 AM	25%	50%
	5:00 AM – 6:00 AM	25%	50%
	6:00 AM – 7:00 AM	25%	50%
Daytime	7:00 AM – 8:00 AM	100%	100%
	8:00 AM – 9:00 AM	100%	100%
	9:00 AM – 10:00 AM	100%	100%
	10:00 AM – 11:00 AM	100%	100%
	11:00 AM – 12:00 PM	100%	100%
	12:00 PM – 1:00 PM	100%	100%
	1:00 PM – 2:00 PM	100%	100%
	2:00 PM – 3:00 PM	100%	100%
	3:00 PM – 4:00 PM	100%	50%
	4:00 PM – 5:00 PM	100%	50%
	5:00 PM – 6:00 PM	100%	50%
	6:00 PM – 7:00 PM	100%	50%
Evening	7:00 PM – 8:00 PM	75%	38%
	8:00 PM – 9:00 PM	75%	38%
	9:00 PM – 10:00 PM	75%	38%
Night	10:00 PM – 11:00 PM	50%	25%
	11:00 PM – 12:00 AM	25%	50%

Nitrogen Dioxide to Nitrogen Oxides Conversion

According to USEPA, dispersion modeling results provide predicted concentrations of NOx which, for comparison to ambient air quality standards, can be converted to concentrations of NO_2. While AERMOD is generally considered a non-chemistry model, it offers three methods for modeling NO_2 formation from NOx emissions: (i) the Ambient Ratio Method (ARM and ARM tier 2), (ii) the Ozone Limiting Method (OLM), and (iii) the Plume Volume Molar Ratio Method (PVMRM). Moreover, USEPA's *Guideline on Air Quality Models* recommends a three-tiered screening approach to estimate ambient concentrations of NO_2:

- *Tier 1* – Assumes complete (100 percent) conversion of all emitted NO_x to NO_2 based on application of an appropriate refined modeling technique under Section 4.2.2 of Appendix

W (of the USEPA's *Guideline on Air Quality Models*) to estimate ambient NO_x concentrations.

- *Tier 2* – Ambient Ratio Method (ARM-2), in which model-predicted NO_x concentrations are multiplied by a NO_2/NO_x ambient ratio derived from ambient monitoring data. ARM-2 incorporates a variable ambient ratio—a function of model predicted one-hour NO_x concentration—based on an analysis of nationwide hourly ambient NO_x monitoring data from approximately 580 stations from 2001 through 2010.
- *Tier 3* – Performs a detailed analysis on a case-by-case basis by employing the OLM or PVMRM. These methods require the most detailed analysis and produce the least conservative and presumably most representative results. Tier 3 requires information such as in-stack NO_2/NO_x ratio and ambient ozone concentrations.

The air quality dispersion modeling analysis employed the ARM-2 approach. It was determined that 100 percent conversion (tier 2) was not appropriate for this air quality analysis and the use of ARM-2 provides a conservative analysis compared to the use of OLM/PVMRM (tier 3).

Background Concentrations

Background concentrations, as described in the USEPA *Guideline on Air Quality Models*[11] refers to the "…portion of the background attributable to natural sources, other unidentified sources in the vicinity of the project, and regional transport contributions from more distant sources" where "…the ambient concentrations from these sources are typically accounted for through use of ambient monitoring data…".

Generally, the closest upwind monitor should be selected, with preference to the monitor that has the most similar characteristics to the area for the source under consideration. The SCAQMD maintains a network of monitoring stations within the Air Basin that monitor air quality and compliance with applicable ambient standards. The nearest air monitoring station which measures CO, NO_2, SO_2, and PM_{10} is located near Los Angeles International Airport (7201 West Westchester Parkway, Southwest Coastal LA County, Station 820), four miles to the west of the project site. The nearest air monitoring station which measures $PM_{2.5}$ is located in central Los Angeles (1630 North Main Street, Central LA, Station 087), ten miles to the northeast of the project site. **Table A-2** summarizes the most recent three years of data (2017 through 2019) from the nearby air monitoring stations.

Consistent with SCAQMD guidance, the maximum background concentrations (in bold) were used in the air quality analysis. The most recent three years of available monitoring data have

[11] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W*, November 2005, Accessed July 7, 2020 at: https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf.

been used to develop background concentration values. For all CAAQS and most NAAQS pollutants, the maximum value from the most recent three years was used. The exceptions to this includes 1-hour NO_2 (three year average of the 98th percentile of the daily maximum 1-hour average) and 1-hour SO_2 (three year average of the 99th percentile of the daily maximum 1-hour average).[12] The exceptions for including background concentrations is the PM_{10} CAAQS and $PM_{2.5}$ NAAQS and CAAQS, due to the nonattainment status for the South Coast Air Basin. Modeled maximum 24-hour and annual concentrations were compared directly to the significant thresholds.

TABLE A-2
BACKGROUND CONCENTRATIONS (PPM)

Pollutant	Monitoring Data by Year		
	2017	2018	2019
Nitrogen Dioxide (NO_2)			
Highest 1 Hour Average (ppm)[b]- CAAQS	**0.072**	0.060	0.070
Highest 1 Hour Average (ppm)[b]- NAAQS	**0.055**	0.050	0.049
Annual Average (μg/m³)	0.009	0.009	**0.010**
Carbon Monoxide (CO)			
Highest 1 Hour Average (ppm)	**2.1**	1.8	1.8
Highest 8 Hour Average (ppm)	**1.6**	1.5	1.3
Sulfur Dioxide (SO_2)			
Highest 1 Hour Average (ppm) - CAAQS	0.010	**0.012**	0.008
Highest 1 Hour Average (ppm) - NAAQS	**0.007**	0.005	0.004
Highest 24 Hour Average (ppm)	0.004	**0.005**	0.003

Source: *South Coast Air Quality Management District, Annual Air Quality Summaries,* Accessed July 7, 2020 at: *http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year.*

[12] South Coast Air Quality Management District, *SCAQMD Modeling Guidance for AERMOD*, Accessed July 7, 2020 at: https://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

Attachment B

Health Risk Assessment Methodology and Assumptions

A health risk assessment (HRA) is accomplished in four steps: 1) hazards identification, 2) exposure assessment, 3) toxicity assessment, and 4) risk characterization. These steps cover the estimation of air emissions, the estimation of the air concentrations resulting from a dispersion analysis, the incorporation of the toxicity of the pollutants emitted, and the characterization of the risk based on exposure parameters such as breathing rate, age adjustment factors, and exposure duration; each depending on receptor type (i.e., residence, school, daycare centers, hospitals, senior care facilities, recreational areas, adult, infant, child).

This HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including United States Environmental Protection Agency (USEPA) *Guideline on Air Quality Models*[1], California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[2], the South Coast Air Quality Management District (SCAQMD) *AB 2588 and Rule 1402 Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act,*[3] and SCAQMD's *Risk Assessment Procedures for Rule 1401, 1401.1 and 212.*[4] This HRA addresses the emissions from construction activities (nonroad equipment at the project site and off-site truck travel along nearby roadways). Specific focus is on diesel particulate matter (DPM) emissions.

An HRA should not be interpreted as the expected rates of cancer or other potential human health effects, but rather as estimates of potential risk or likelihood of adverse effects based on current knowledge, under a number of highly conservative assumptions and the best assessment tools currently available. **Attachment C: Supplemental Health Impact Information provides** further information on health impacts.

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[1] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W*, November 2005, Accessed July 7, 2020 at: https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf.

[2] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, Accessed July 7, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[3] South Coast Air Quality Management District, *AB 2588 and Rule 1402 Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act*, September 2018, Accessed July 7, 2020 at: *http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines-201809.pdf?sfvrsn=6*.

[4] South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

TERMS AND DEFINITIONS

As the practice of conducting an HRA is particularly complex and involves concepts that are not altogether familiar to most people, several terms and definitions are provided that are considered essential to the understanding of the approach, methodology and results:

Acute effect – a health effect (non-cancer) produced within a short period of time (few minutes to several days) following an exposure to toxic air contaminants (TAC).

Cancer risk – the probability of an individual contracting cancer from a lifetime (i.e., 70 year) exposure to TAC such as DPM in the ambient air based on an exposure duration of 30 years.

Chronic effect – a health effect (non-cancer) produced from a continuous exposure occurring over an extended period of time (weeks, months, years).

Hazard Index (HI) – the unitless ratio of an exposure level over the acceptable reference dose. The HI can be applied to multiple compounds in an additive manner.

Hazard Quotient (HQ) – the unitless ratio of an exposure level over the acceptable reference dose. The HQ is applied to individual compounds.

Toxic Air Contaminants – any air pollutant that is capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). The current California list of TAC identify approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Human Health Effects - comprise disorders such as eye watering, respiratory or heart ailments, and other (i.e., non-cancer) related diseases.

Health Risk Assessment – an analysis designed to predict the generation and dispersion of TAC in the outdoor environment, evaluate the potential for exposure of human populations, and to assess and quantify both the individual and population-wide health risks associated with those levels of exposure.

Incremental – under CEQA, the net difference (or change) in conditions or impacts when comparing the baseline to future year project conditions.

Maximum exposed individual (MEI) – an individual assumed to be located at the point where the highest concentrations of TAC, and therefore, health risks are predicted to occur.

Non-cancer risks – health risks such as eye watering, respiratory or heart ailments, and other non-cancer related diseases.

Receptors – the locations where potential health impacts or risks are predicted (i.e., schools, residences, and recreational sites).

LIMITATIONS AND UNCERTAINTIES

There are a number of important limitations and uncertainties commonly associated with a HRA due to the wide variability of human exposures to TAC, the extended timeframes over which the exposures are evaluated, and the inability to verify the results. Limitations and uncertainties associated with a HRA include: (a.) lack of reliable monitoring data; (b.) extrapolation of toxicity data in animals to humans; (c.) estimation errors in calculating TAC emissions; (d.) concentration prediction errors with dispersion models; and (e.) the variability in lifestyles, fitness and other confounding factors of the human population. This HRA was performed in accordance with USEPA, OEHHA, and SCAQMD guidance and requirements, notwithstanding the following uncertainties:

- There are uncertainties associated with the estimation of emissions from project activities. Where project-specific data, such as emission factors, are not available, default assumptions in emission models were used.
- The limitations of the air dispersion model provide a source of uncertainty in the estimation of exposure concentrations. According to USEPA, errors due to the limitation of the algorithms implemented in the air dispersion model in the highest estimated concentrations of +/- 10 percent to 40 percent are typical.[5]
- The source parameters used to model emission sources add uncertainty. For all emission sources, the source parameters used source-specific, recommended as defaults, or expected to produce more conservative results. Discrepancies might exist in actual emissions characteristics of an emission source and its representation in the dispersion model.
- The exposure duration estimates do not take into account that people do not usually reside at the same location for 30 years and that other exposures (i.e., school children) are also of much shorter durations than was assumed in this HRA. This exposure duration is a highly conservative assumption, since most people do not remain at home all day and on average residents change residences every 11 to 12 years. In addition, this assumption adopts that residents are experiencing outdoor concentrations for the entire exposure period. A school child exposure duration is between ages 2 and 16 years old, which again is conservative because the elementary, middle, and high school are not often located at the same location.
- For the risk and hazards calculations as well as the cumulative health impact, numerous assumptions must be made in order to estimate human exposure to pollutants. These

[5] United States Environmental Protection Agency, *Guideline on Air Quality Models (Revised), 40 Code of Federal Regulations, Part 51, Appendix W*, November 2005, Accessed July 7, 2020 at: https://www3.epa.gov/scram001/guidance/guide/appw_05.pdf.

assumptions include parameters such as breathing rates, exposure time and frequency, exposure duration, and human activity patterns. While a mean value derived from scientifically defensible studies is the best estimate of central tendency, most of the exposure variables used in this HRA are high-end estimates. The combination of several high-end estimates used as exposure parameters may substantially overestimate pollutant intake. The excess lifetime cancer risks calculated in this HRA are therefore likely to be higher than may be required to be protective of public health.

- The OEHHA cancer potency factor for DPM was used to estimate cancer risks associated with exposure to DPM emissions from construction activities. However, the cancer potency factor derived by OEHHA for DPM is highly uncertain in both the estimation of response and dose. In the past, due to inadequate animal test data and epidemiology data on diesel exhaust, the International Agency for Research on Cancer (IARC), a branch of the World Health Organization, had classified DPM as Probably Carcinogenic to Humans (Group 2); the USEPA had also concluded that the existing data did not provide an adequate basis for quantitative risk assessment.[6] However, based on two recent scientific studies,[7] IARC recently re-classified DPM as Carcinogenic to Humans to Group 1,[8] which means that the agency has determined that there is "sufficient evidence of carcinogenicity" of a substance in humans and represents the strongest weight-of-evidence rating in IARC's carcinogen classification scheme. This determination by the IARC may provide additional impetus for the USEPA to identify a quantitative dose-response relationship between exposure to DPM and cancer.

In summary, the estimated health impacts are based primarily on a series of conservative assumptions related to predicted environmental concentrations, exposure, and chemical toxicity. The use of conservative assumptions tends to produce upper-bound estimates of risk. The USEPA notes that the conservative assumptions used in a HRA are intended to assure that the estimated risks do not underestimate the actual risks posed by a site and that the estimated risks do not necessarily represent actual risks experienced by populations at or near a site.[9]

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[6] United States Environmental Protection Agency, *Health Assessment Document for Diesel Engine Exhaust*, May 2002, Accessed July 7, 2020 at: https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=29060.

[7] Attfield MD, Schleiff PL, Lubin JH, Blair A, Stewart PA, Vermeulen R, Coble JB, Silverman DT, *The Diesel Exhaust in Miners Study: A Nested Case-Control Study of Lung Cancer and Diesel Exhaust*, June 2012, Accessed July 7, 2020 at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3369553/.

[8] International Agency for Research on Cancer, *Diesel Engine Exhaust Carcinogenic*, June 2012, Accessed July 7, 2020 at: https://www.iarc.fr/en/media-centre/pr/2012/pdfs/pr213_E.pdf.

[9] United States Environmental Protection Agency, *Risk Assessment Guidance for Superfund Human Health Risk Assessment*, December 1989, Accessed July 7, 2020 at: https://www.epa.gov/sites/production/files/2015-09/documents/rags_a.pdf.

HAZARDS IDENTIFICATION

Diesel exhaust is a complex mixture of numerous individual gaseous and particulate compounds emitted from diesel-fueled combustion engines. Diesel particulate matter is formed primarily through the incomplete combustion of diesel fuel. DPM is removed from the atmosphere through physical processes including atmospheric fall-out and washout by rain. Humans can be exposed to airborne DPM by deposition on water, soil, and vegetation; although the main pathway of exposure is inhalation. Cal/EPA has concluded that potential cancer risk from inhalation exposure to whole diesel exhaust outweigh the multi-pathway cancer risk from the speciated components.

In August 1998, the CARB identified DPM as an air toxic. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel- Fueled Engines and Vehicles* and *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines* and approved these documents on September 28, 2000.[10,11] The documents represent proposals to reduce DPM emissions, with the goal of reducing emissions and the associated health risk by requiring the use of state-of-the-art catalyzed DPM filters and ultra-low-sulfur diesel fuel.

In 2001, CARB assessed the state-wide health risks from exposure to diesel exhaust and to other toxic air contaminants. It is difficult to distinguish the health risks of diesel emissions from those of other air toxics, since diesel exhaust contains approximately 40 different TAC. The CARB study detected diesel exhaust by using ambient air carbon soot measurements as a surrogate for diesel emissions. The study reported that the state-wide cancer risk from exposure to diesel exhaust was about 540 per million population as compared to a total risk for exposure to all ambient air toxics of 760 per million. This estimate, which accounts for about 70 percent of the total risk from TAC, included both urban and rural areas in the state. The estimate can also be considered an average worst-case for the state, since it assumes constant exposure to outdoor concentrations of diesel exhaust and does not account for expected lower concentrations indoors, where most of time is spent. DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.[12]

Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, the elderly and people with illnesses who may have other serious health problems that can be aggravated by exposure

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[10] California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000, Accessed July 7, 2020 at: http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf.

[11] California Air Resources Board, *Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines*, October 2000, Accessed July 7, 2020 at: https://www.arb.ca.gov/diesel/documents/rmgFinal.pdf.

[12] California Air Resources Board, *Summary: Diesel Particulate Matter Health Impacts*, April 12, 2016, Accessed July 7, 2020 at: https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm.

to DPM. In general, children are more vulnerable than adults to air pollutants because they have higher inhalation rates, narrower airways, and less mature immune systems. In addition, children with allergies may have an enhanced allergic response when exposed to diesel exhaust.

EXPOSURE PARAMETERS

Exposure to airborne chemicals occurs through inhalation and subsequent absorption into the body, potentially resulting in adverse health effects depending on toxicological properties of the chemical and other exposure parameters. This HRA was conducted in accordance with technical guidelines developed by federal, state, and regional agencies, including U.S. Environmental Protection Agency (USEPA), California Environmental Protection Agency (CalEPA), California Office of Environmental Health Hazard Assessment (OEHHA) *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*[13], the SCAQMD *AB 2588 and Rule 1402 Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act,*[14] and SCAQMD's *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*.[15]

OEHHA's revisions to its *Guidance Manual* were primarily designed to ensure that the greater sensitivity of children to cancer and other health risks is reflected in HRAs. For example, OEHHA now recommends that risks be analyzed separately for multiple age groups, focusing especially on young children and teenagers, rather than the past practice of analyzing risks to the general population, without distinction by age. OEHHA also now recommends that statistical "age sensitivity factors" be incorporated into a HRA, and that children's relatively high breathing rates be accounted for. On the other hand, the *Guidance Manual* revisions also include some changes that would reduce calculated health risks. For example, under the former guidance, OEHHA recommended that residential cancer risks be assessed by assuming 70 years of exposure at a residential receptor; under the *Guidance Manual*, this assumption is lessened to 30 years. This is based on studies showing that 30 years is a reasonable estimate of the 90th to 95th percentile of residency duration in the population. Therefore, the health risk assessment provides that a receptor's exposure to a project's emissions for up to 30 years and that the cancer rick is then determined based on a 70 year lifetime for that receptor.

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[13] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, Accessed July 7, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[14] South Coast Air Quality Management District, *AB 2588 and Rule 1402 Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act*, September 2018, Accessed July 7, 2020 at: *http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines-201809.pdf?sfvrsn=6*.

[15] South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

Scientific data have shown that young animals are more sensitive than adult animals to exposure to many carcinogens. Therefore, OEHHA developed age sensitivity factors (ASF) to take into account the increased sensitivity to carcinogens during early-in-life exposures. OEHHA recommends that cancer risks be weighted by a factor of 10 for exposures that occur from the third trimester of pregnancy to 2 years of age, by a factor of 3 for exposures from 2 years through 16 years of age, and by a factor of 1 for exposures from 16 years through 30 years of age.

OEHHA and SCAQMD has developed exposure factors (e.g., daily breathing rates) for four age groups including the third trimester to birth, birth to 2 years, 2 to 16 years, and 16 to 30 years. These age bins allow for more refined exposure information to be used when estimating exposure and the potential for developing cancer over a lifetime. This means that exposure variates are needed for the third trimester, ages zero to less than two, ages two to than 16, and ages 16 to 30. Residential receptors utilize the 95th percentile breathing rate values. For residential exposures, the high end daily breathing rates (e.g., 95th percentile) for children from the third trimester through age 2, and 80th percentile daily breathing rates for all other ages is recommended. The age-specific breathing rates for the four age groups are 361 liters per kilogram-day for third trimester, 1,060 liters per kilogram-day for ages less than 2 years, 572 liters per kilogram-day for ages 2 to 16 years, and 261 liters per kilogram-day for ages 16 to 30 years. A school child (age 2 to 9 years) breathing rate is 631 liters per kilogram-day and an off-site and onsite worker breathing rate is 230 liters per kilogram-day.[16] [17]

Based on OEHHA recommendations, the cancer risk to residential receptors assumes exposure occurs 24 hours per day for 350 days per year while accounting for a percentage of time at home. OEHHA evaluated information from activity pattern databases to estimate the fraction of time at home (FAH) during the day.

This information is used to adjust cancer risk from a project's emissions, assuming that exposure to the project's emissions are not occurring away from home. A FAH factor of 0.5 applies for the offsite workers since the offsite worker is assumed to be present for a typical eight hour work day compared to the 16 hour construction schedule. In general, the FAH factors are age-specific and are 0.85 for ages less than 2 years, 0.72 for ages 2 to 16 years, and 0.73 for ages 16 to 30 years. However, SCAQMD recommends the FAH is assumed to be 1 for ages third trimester to age 16. As a conservative assumption, children are assumed to attend a

[16] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, Accessed July 7, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[17] South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

daycare or school in close proximity to their home and no discount should be taken for time spent outside of the area affected by the project's emissions.[18] [19]

Based on OEHHA recommendations, for children at school sites, exposure is assumed to occur 10 hours per day for 180 days (or 36 weeks) per year. Cancer risk estimates for children at school sites are calculated based on nine year exposure duration. School sites also include teachers and other adult staff which are treated as off-site workers. For occupational receptors, SCAQMD guidance suggests that the exposure be based on 8 hours per day, 5 days per week, 250 working days per year, and a 25-year working lifetime. This is a conservative assumption, since most people do not remain at the same job for 25 years. For worker exposures, it is assumed that the working age begins at 16 years, and that exposures to project emissions occur during the work shift which is typically up to eight hours per day during work days. Given the exposure durations of less than 24 hours, sensitive recreational receptors were evaluated for acute impacts only.[20] [21] **Table B-1** presents a summary of the health risk assessment exposure factors.

Table B-1: Health Risk Assessment Exposure Factors

Receptor	Age	Age Specific Factor	Breathing Rate (L/kg-day)	Fraction of Time	Daily Exposure	Annual Exposure
Worker	16 to 41	1	230	1	8 hours	250 days
Residential	Third Trimester	10	361	1	24 hours	350 days
	0 to 2	10	1,090	1	24 hours	350 days
	2 to 16	3	572	1	24 hours	350 days
	16 to 30	1	261	0.73	24 hours	350 days
School Child	2 to 16	3	581	1	10 hours	180 days

Source: Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, http://oehha.ca.gov/air/hot_spots/hotspots2015.html and South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

[18] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, Accessed July 7, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[19] South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

[20] Office of Environmental Health Hazard Assessment, *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*, March 6, 2015, Accessed July 7, 2020 at: http://oehha.ca.gov/air/hot_spots/hotspots2015.html.

[21] South Coast Air Quality Management District, *Risk Assessment Procedures for Rule 1401, 1401.1 and 212*, September 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/docs/default-source/permitting/rule-1401-risk-assessment/riskassessproc-v8-1.pdf?sfvrsn=12.

RISK CHARACTERIZATION

Cancer risk is defined as the lifetime probability of developing cancer from exposure to carcinogenic substances. Cancer risks are expressed as the chance in one million of getting cancer (i.e., number of cancer cases among one million people exposed). The cancer risks are assumed to occur exclusively through the inhalation pathway. The cancer risk can be estimated by using the cancer potency factor (milligrams per kilogram of body weight per day [mg/kg-day]), the 70-year annual average concentration (microgram per cubic meter [μg/m³]), and the lifetime exposure adjustment based on a 30-year exposure duration.

Following guidelines established by OEHHA, the incremental cancer risks attributable to the proposed project were calculated by applying exposure parameters to modeled DPM concentrations in order to determine the inhalation dose (mg/kg-day) or the amount of pollutants inhaled per body weight mass per day. The cancer risks occur exclusively through the inhalation pathway; therefore, the cancer risks can be estimated from the following equation:

$$\text{Dose-inh} = \frac{C_{air} * \{DBR\} * A * ASF * FAH * EF * ED * 10^{-6}}{AT}$$

where:

Dose-inh	= Dose of the toxic substance through inhalation in mg/kg-day
10^{-6}	= Micrograms to milligrams conversion, Liters to cubic meters conversion
C_{air}	= Concentration in air in microgram (μg)/cubic meter (m^3)
DBR	= Daily breathing rate in liter (L)/kg body weight – day
A	= Inhalation absorption factor, 1.0
ASF	= Age Sensitivity Factor
EF	= Exposure frequency (days/year)
ED	= Exposure duration (years)
FAH	= Fraction of Time at Home
AT	= Averaging time period over which exposure is averaged in days (25,550 days for a 70 year lifetime based on a 30-year exposure duration)

To determine incremental cancer risk, the estimated inhalation dose attributed to the proposed project was multiplied by the cancer potency slope factor (cancer risk per mg/kg-day). The cancer potency slope factor is the upper bound on the increased cancer risk from a lifetime exposure to a pollutant. These slope factors are based on epidemiological studies and are different values for different pollutants. This allows the estimated inhalation dose to be equated to a cancer risk.

Non-cancer adverse health impacts, acute (short-term) and chronic (long-term), are measured against a hazard index (HI), which is defined as the ratio of the predicted incremental exposure concentration from the proposed project to a published reference exposure level (REL) that could cause adverse health effects as established by OEHHA. The ratio (referred to as the Hazard Quotient [HQ]) of each non-carcinogenic substance that affects a certain organ system is added to produce an overall HI for that organ system. The overall HI is calculated for each organ system. If the overall HI for the highest-impacted organ system is greater than one, then the impact is considered to be significant.

The HI is an expression used for the potential for non-cancer health effects. The relationship for the non-cancer health effects is given by the annual concentration (in $\mu g/m^3$) and the REL (in $\mu g/m^3$). The acute hazard index was determined using the "simple" concurrent maximum approach, which tends to be conservative (i.e., overpredicts).

The relationship for the non-cancer health effects is given by the following equation:

$$HI = C/REL$$

Where:

HI	= Hazard index; an expression of the potential for non-cancer health effects.
C	= Annual average concentration ($\mu g/m^3$) during the 70 year exposure period.
REL	= Concentration at which no adverse health effects are anticipated.

The concentration level at or below which no adverse non-cancer health effects are anticipated for a specified exposure duration is termed the REL. REL are based on the most sensitive, relevant, adverse health effect reported in the medical and toxicological literature. REL are designed to protect the most sensitive individuals in the population by the inclusion of margins of safety. Since margins of safety are incorporated to address data gaps and uncertainties, exceeding the REL does not automatically indicate an adverse health impact.[22] The chronic REL for DPM was established by the California OEHHA as 5 $\mu g/m^3$.[23]

[22] Office of Environmental Health Hazards Assessment - Consolidated Health Values Table, August 20, 2018, Accessed July 7, 2020 at: https://www.arb.ca.gov/toxics/healthval/contable.pdf.

[23] Office of Environmental Health Hazards Assessment - Acute, 8-hour, and Chronic Reference Exposure Levels, June 2014, Accessed July 7, 2020 at: http://www.oehha.ca.gov/air/allrels.html.

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime
230	80th Percentile Daily Breathing Rates (L/kg-day) 16<41 Years
0.67	fraction of time at work 16<41 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Offsite Workers
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2021	-	230	1.00	0.73	-
2	2022	0.14	230	1.00	0.73	0.25
3	2023	0.17	230	1.00	0.73	0.30
4	2024	0.05	230	1.00	0.73	0.10
5	2025	0.06	230	1.00	0.73	0.10
6	2026	0.01	230	1.00	0.73	0.01

0.03	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.76	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime
230	80th Percentile Daily Breathing Rates (L/kg-day) 16<41 Years
0.67	fraction of time at work 16<41 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Offsite Workers
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2021	-	230	1.00	0.73	-
2	2022	0.02	230	1.00	0.73	0.03
3	2023	0.02	230	1.00	0.73	0.04
4	2024	0.03	230	1.00	0.73	0.06
5	2025	0.04	230	1.00	0.73	0.07
6	2026	0.00	230	1.00	0.73	0.01

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.20	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime
230	80th Percentile Daily Breathing Rates (L/kg-day) 16<41 Years
0.67	fraction of time at work 16<41 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Offsite Workers
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2021	-	230	1.00	0.73	-
2	2022	0.05	230	1.00	0.73	0.09
3	2023	0.06	230	1.00	0.73	0.11
4	2024	0.11	230	1.00	0.73	0.20
5	2025	0.12	230	1.00	0.73	0.21
6	2026	0.02	230	1.00	0.73	0.03

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.64	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
250	days per year
25,550	days per lifetime
230	80th Percentile Daily Breathing Rates (L/kg-day) 16<41 Years
0.67	fraction of time at work 16<41 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Offsite Workers
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at work	Cancer Risk
1	2021	-	230	1.00	0.73	-
2	2022	0.01	230	1.00	0.73	0.02
3	2023	0.02	230	1.00	0.73	0.03
4	2024	0.03	230	1.00	0.73	0.05
5	2025	0.03	230	1.00	0.73	0.06
6	2026	0.00	230	1.00	0.73	0.01

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.18	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2021
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2021	-	1,090	10.0	1.00	-
2	2022	0.06	1,090	10.0	1.00	9.87
3	2023	0.08	572	4.75	1.00	3.15
4	2024	0.07	572	3.00	1.00	1.85
5	2025	0.07	572	3.00	1.00	1.85
6	2026	0.01	572	3.00	1.00	0.27
7	2027		572	3.00	1.00	
8	2028		572	3.00	1.00	
9	2029		572	3.00	1.00	
10	2030		572	3.00	1.00	
11	2031		572	3.00	1.00	
12	2032		572	3.00	1.00	
13	2033		572	3.00	1.00	
14	2034		572	3.00	1.00	
15	2035		572	3.00	1.00	
16	2036		572	3.00	1.00	
17	2037		261	1.70	0.73	
18	2038		261	1.00	0.73	
19	2039		261	1.00	0.73	
20	2040		261	1.00	0.73	
21	2041		261	1.00	0.73	
22	2042		261	1.00	0.73	
23	2043		261	1.00	0.73	
24	2044		261	1.00	0.73	
25	2045		261	1.00	0.73	
26	2046		261	1.00	0.73	
27	2047		261	1.00	0.73	
28	2048		261	1.00	0.73	
29	2049		261	1.00	0.73	
30	2050		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
17.0	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.42	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2022
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2022	0.06	1,090	10.0	1.00	9.87
2	2023	0.08	1,090	10.0	1.00	12.6
3	2024	0.07	572	4.75	1.00	2.93
4	2025	0.07	572	3.00	1.00	1.85
5	2026	0.01	572	3.00	1.00	0.27
6	2027		572	3.00	1.00	
7	2028		572	3.00	1.00	
8	2029		572	3.00	1.00	
9	2030		572	3.00	1.00	
10	2031		572	3.00	1.00	
11	2032		572	3.00	1.00	
12	2033		572	3.00	1.00	
13	2034		572	3.00	1.00	
14	2035		572	3.00	1.00	
15	2036		572	3.00	1.00	
16	2037		572	3.00	1.00	
17	2038		261	1.70	0.73	
18	2039		261	1.00	0.73	
19	2040		261	1.00	0.73	
20	2041		261	1.00	0.73	
21	2042		261	1.00	0.73	
22	2043		261	1.00	0.73	
23	2044		261	1.00	0.73	
24	2045		261	1.00	0.73	
25	2046		261	1.00	0.73	
26	2047		261	1.00	0.73	
27	2048		261	1.00	0.73	
28	2049		261	1.00	0.73	
29	2050		261	1.00	0.73	
30	2051		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
27.6	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.42	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2023
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2023	0.08	1,090	10.0	1.00	12.6
2	2024	0.07	1,090	10.0	1.00	11.8
3	2025	0.07	572	4.75	1.00	2.94
4	2026	0.01	572	3.00	1.00	0.27
5	2027		572	3.00	1.00	
6	2028		572	3.00	1.00	
7	2029		572	3.00	1.00	
8	2030		572	3.00	1.00	
9	2031		572	3.00	1.00	
10	2032		572	3.00	1.00	
11	2033		572	3.00	1.00	
12	2034		572	3.00	1.00	
13	2035		572	3.00	1.00	
14	2036		572	3.00	1.00	
15	2037		572	3.00	1.00	
16	2038		572	3.00	1.00	
17	2039		261	1.70	0.73	
18	2040		261	1.00	0.73	
19	2041		261	1.00	0.73	
20	2042		261	1.00	0.73	
21	2043		261	1.00	0.73	
22	2044		261	1.00	0.73	
23	2045		261	1.00	0.73	
24	2046		261	1.00	0.73	
25	2047		261	1.00	0.73	
26	2048		261	1.00	0.73	
27	2049		261	1.00	0.73	
28	2050		261	1.00	0.73	
29	2051		261	1.00	0.73	
30	2052		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
27.6	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.13	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2024
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2024	0.07	1,090	10.0	1.00	11.8
2	2025	0.07	1,090	10.0	1.00	11.8
3	2026	0.01	572	4.75	1.00	0.43
4	2027		572	3.00	1.00	
5	2028		572	3.00	1.00	
6	2029		572	3.00	1.00	
7	2030		572	3.00	1.00	
8	2031		572	3.00	1.00	
9	2032		572	3.00	1.00	
10	2033		572	3.00	1.00	
11	2034		572	3.00	1.00	
12	2035		572	3.00	1.00	
13	2036		572	3.00	1.00	
14	2037		572	3.00	1.00	
15	2038		572	3.00	1.00	
16	2039		572	3.00	1.00	
17	2040		261	1.70	0.73	
18	2041		261	1.00	0.73	
19	2042		261	1.00	0.73	
20	2043		261	1.00	0.73	
21	2044		261	1.00	0.73	
22	2045		261	1.00	0.73	
23	2046		261	1.00	0.73	
24	2047		261	1.00	0.73	
25	2048		261	1.00	0.73	
26	2049		261	1.00	0.73	
27	2050		261	1.00	0.73	
28	2051		261	1.00	0.73	
29	2052		261	1.00	0.73	
30	2053		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
24.0	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
0.75	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2025
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	0.07	1,090	10.0	1.00	11.8
2	2026	0.01	1,090	10.0	1.00	1.71
3	2027		572	4.75	1.00	
4	2028		572	3.00	1.00	
5	2029		572	3.00	1.00	
6	2030		572	3.00	1.00	
7	2031		572	3.00	1.00	
8	2032		572	3.00	1.00	
9	2033		572	3.00	1.00	
10	2034		572	3.00	1.00	
11	2035		572	3.00	1.00	
12	2036		572	3.00	1.00	
13	2037		572	3.00	1.00	
14	2038		572	3.00	1.00	
15	2039		572	3.00	1.00	
16	2040		572	3.00	1.00	
17	2041		261	1.70	0.73	
18	2042		261	1.00	0.73	
19	2043		261	1.00	0.73	
20	2044		261	1.00	0.73	
21	2045		261	1.00	0.73	
22	2046		261	1.00	0.73	
23	2047		261	1.00	0.73	
24	2048		261	1.00	0.73	
25	2049		261	1.00	0.73	
26	2050		261	1.00	0.73	
27	2051		261	1.00	0.73	
28	2052		261	1.00	0.73	
29	2053		261	1.00	0.73	
30	2054		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
13.5	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
0.40	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2026
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2026	0.01	1,090	10.0	1.00	1.71
2	2027		1,090	10.0	1.00	
3	2028		572	4.75	1.00	
4	2029		572	3.00	1.00	
5	2030		572	3.00	1.00	
6	2031		572	3.00	1.00	
7	2032		572	3.00	1.00	
8	2033		572	3.00	1.00	
9	2034		572	3.00	1.00	
10	2035		572	3.00	1.00	
11	2036		572	3.00	1.00	
12	2037		572	3.00	1.00	
13	2038		572	3.00	1.00	
14	2039		572	3.00	1.00	
15	2040		572	3.00	1.00	
16	2041		572	3.00	1.00	
17	2042		261	1.70	0.73	
18	2043		261	1.00	0.73	
19	2044		261	1.00	0.73	
20	2045		261	1.00	0.73	
21	2046		261	1.00	0.73	
22	2047		261	1.00	0.73	
23	2048		261	1.00	0.73	
24	2049		261	1.00	0.73	
25	2050		261	1.00	0.73	
26	2051		261	1.00	0.73	
27	2052		261	1.00	0.73	
28	2053		261	1.00	0.73	
29	2054		261	1.00	0.73	
30	2055		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.71	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.05	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: Existing Residence
Year: 2021
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2021	-	1,090	10.0	1.00	-
2	2022	0.02	1,090	10.0	1.00	2.57
3	2023	0.02	572	4.75	1.00	0.89
4	2024	0.02	572	3.00	1.00	0.50
5	2025	0.02	572	3.00	1.00	0.54
6	2026	0.00	572	3.00	1.00	0.06
7	2027		572	3.00	1.00	
8	2028		572	3.00	1.00	
9	2029		572	3.00	1.00	
10	2030		572	3.00	1.00	
11	2031		572	3.00	1.00	
12	2032		572	3.00	1.00	
13	2033		572	3.00	1.00	
14	2034		572	3.00	1.00	
15	2035		572	3.00	1.00	
16	2036		572	3.00	1.00	
17	2037		261	1.70	0.73	
18	2038		261	1.00	0.73	
19	2039		261	1.00	0.73	
20	2040		261	1.00	0.73	
21	2041		261	1.00	0.73	
22	2042		261	1.00	0.73	
23	2043		261	1.00	0.73	
24	2044		261	1.00	0.73	
25	2045		261	1.00	0.73	
26	2046		261	1.00	0.73	
27	2047		261	1.00	0.73	
28	2048		261	1.00	0.73	
29	2049		261	1.00	0.73	
30	2050		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
4.54	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.39	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2022
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2022	0.02	1,090	10.0	1.00	2.57
2	2023	0.02	1,090	10.0	1.00	3.55
3	2024	0.02	572	4.75	1.00	0.79
4	2025	0.02	572	3.00	1.00	0.54
5	2026	0.00	572	3.00	1.00	0.06
6	2027		572	3.00	1.00	
7	2028		572	3.00	1.00	
8	2029		572	3.00	1.00	
9	2030		572	3.00	1.00	
10	2031		572	3.00	1.00	
11	2032		572	3.00	1.00	
12	2033		572	3.00	1.00	
13	2034		572	3.00	1.00	
14	2035		572	3.00	1.00	
15	2036		572	3.00	1.00	
16	2037		572	3.00	1.00	
17	2038		261	1.70	0.73	
18	2039		261	1.00	0.73	
19	2040		261	1.00	0.73	
20	2041		261	1.00	0.73	
21	2042		261	1.00	0.73	
22	2043		261	1.00	0.73	
23	2044		261	1.00	0.73	
24	2045		261	1.00	0.73	
25	2046		261	1.00	0.73	
26	2047		261	1.00	0.73	
27	2048		261	1.00	0.73	
28	2049		261	1.00	0.73	
29	2050		261	1.00	0.73	
30	2051		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
7.50	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.39	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2023
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2023	0.02	1,090	10.0	1.00	3.55
2	2024	0.02	1,090	10.0	1.00	3.16
3	2025	0.02	572	4.75	1.00	0.86
4	2026	0.00	572	3.00	1.00	0.06
5	2027		572	3.00	1.00	
6	2028		572	3.00	1.00	
7	2029		572	3.00	1.00	
8	2030		572	3.00	1.00	
9	2031		572	3.00	1.00	
10	2032		572	3.00	1.00	
11	2033		572	3.00	1.00	
12	2034		572	3.00	1.00	
13	2035		572	3.00	1.00	
14	2036		572	3.00	1.00	
15	2037		572	3.00	1.00	
16	2038		572	3.00	1.00	
17	2039		261	1.70	0.73	
18	2040		261	1.00	0.73	
19	2041		261	1.00	0.73	
20	2042		261	1.00	0.73	
21	2043		261	1.00	0.73	
22	2044		261	1.00	0.73	
23	2045		261	1.00	0.73	
24	2046		261	1.00	0.73	
25	2047		261	1.00	0.73	
26	2048		261	1.00	0.73	
27	2049		261	1.00	0.73	
28	2050		261	1.00	0.73	
29	2051		261	1.00	0.73	
30	2052		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
7.63	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.31	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2024
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2024	0.02	1,090	10.0	1.00	3.16
2	2025	0.02	1,090	10.0	1.00	3.43
3	2026	0.00	572	4.75	1.00	0.09
4	2027		572	3.00	1.00	
5	2028		572	3.00	1.00	
6	2029		572	3.00	1.00	
7	2030		572	3.00	1.00	
8	2031		572	3.00	1.00	
9	2032		572	3.00	1.00	
10	2033		572	3.00	1.00	
11	2034		572	3.00	1.00	
12	2035		572	3.00	1.00	
13	2036		572	3.00	1.00	
14	2037		572	3.00	1.00	
15	2038		572	3.00	1.00	
16	2039		572	3.00	1.00	
17	2040		261	1.70	0.73	
18	2041		261	1.00	0.73	
19	2042		261	1.00	0.73	
20	2043		261	1.00	0.73	
21	2044		261	1.00	0.73	
22	2045		261	1.00	0.73	
23	2046		261	1.00	0.73	
24	2047		261	1.00	0.73	
25	2048		261	1.00	0.73	
26	2049		261	1.00	0.73	
27	2050		261	1.00	0.73	
28	2051		261	1.00	0.73	
29	2052		261	1.00	0.73	
30	2053		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
6.68	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.21	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2025
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	0.02	1,090	10.0	1.00	3.43
2	2026	0.00	1,090	10.0	1.00	0.36
3	2027		572	4.75	1.00	
4	2028		572	3.00	1.00	
5	2029		572	3.00	1.00	
6	2030		572	3.00	1.00	
7	2031		572	3.00	1.00	
8	2032		572	3.00	1.00	
9	2033		572	3.00	1.00	
10	2034		572	3.00	1.00	
11	2035		572	3.00	1.00	
12	2036		572	3.00	1.00	
13	2037		572	3.00	1.00	
14	2038		572	3.00	1.00	
15	2039		572	3.00	1.00	
16	2040		572	3.00	1.00	
17	2041		261	1.70	0.73	
18	2042		261	1.00	0.73	
19	2043		261	1.00	0.73	
20	2044		261	1.00	0.73	
21	2045		261	1.00	0.73	
22	2046		261	1.00	0.73	
23	2047		261	1.00	0.73	
24	2048		261	1.00	0.73	
25	2049		261	1.00	0.73	
26	2050		261	1.00	0.73	
27	2051		261	1.00	0.73	
28	2052		261	1.00	0.73	
29	2053		261	1.00	0.73	
30	2054		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
3.79	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.11	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2026
Scenario:	Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2026	0.00	1,090	10.0	1.00	0.36
2	2027		1,090	10.0	1.00	
3	2028		572	4.75	1.00	
4	2029		572	3.00	1.00	
5	2030		572	3.00	1.00	
6	2031		572	3.00	1.00	
7	2032		572	3.00	1.00	
8	2033		572	3.00	1.00	
9	2034		572	3.00	1.00	
10	2035		572	3.00	1.00	
11	2036		572	3.00	1.00	
12	2037		572	3.00	1.00	
13	2038		572	3.00	1.00	
14	2039		572	3.00	1.00	
15	2040		572	3.00	1.00	
16	2041		572	3.00	1.00	
17	2042		261	1.70	0.73	
18	2043		261	1.00	0.73	
19	2044		261	1.00	0.73	
20	2045		261	1.00	0.73	
21	2046		261	1.00	0.73	
22	2047		261	1.00	0.73	
23	2048		261	1.00	0.73	
24	2049		261	1.00	0.73	
25	2050		261	1.00	0.73	
26	2051		261	1.00	0.73	
27	2052		261	1.00	0.73	
28	2053		261	1.00	0.73	
29	2054		261	1.00	0.73	
30	2055		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.36	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.01	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2021
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2021	-	1,090	10.0	1.00	-
2	2022	0.02	1,090	10.0	1.00	3.48
3	2023	0.03	572	4.75	1.00	1.13
4	2024	0.10	572	3.00	1.00	2.58
5	2025	0.10	572	3.00	1.00	2.65
6	2026	0.02	572	3.00	1.00	0.39
7	2027		572	3.00	1.00	
8	2028		572	3.00	1.00	
9	2029		572	3.00	1.00	
10	2030		572	3.00	1.00	
11	2031		572	3.00	1.00	
12	2032		572	3.00	1.00	
13	2033		572	3.00	1.00	
14	2034		572	3.00	1.00	
15	2035		572	3.00	1.00	
16	2036		572	3.00	1.00	
17	2037		261	1.70	0.73	
18	2038		261	1.00	0.73	
19	2039		261	1.00	0.73	
20	2040		261	1.00	0.73	
21	2041		261	1.00	0.73	
22	2042		261	1.00	0.73	
23	2043		261	1.00	0.73	
24	2044		261	1.00	0.73	
25	2045		261	1.00	0.73	
26	2046		261	1.00	0.73	
27	2047		261	1.00	0.73	
28	2048		261	1.00	0.73	
29	2049		261	1.00	0.73	
30	2050		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
10.2	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.30	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2022
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2022	0.02	1,090	10.0	1.00	3.48
2	2023	0.03	1,090	10.0	1.00	4.53
3	2024	0.10	572	4.75	1.00	4.09
4	2025	0.10	572	3.00	1.00	2.65
5	2026	0.02	572	3.00	1.00	0.39
6	2027		572	3.00	1.00	
7	2028		572	3.00	1.00	
8	2029		572	3.00	1.00	
9	2030		572	3.00	1.00	
10	2031		572	3.00	1.00	
11	2032		572	3.00	1.00	
12	2033		572	3.00	1.00	
13	2034		572	3.00	1.00	
14	2035		572	3.00	1.00	
15	2036		572	3.00	1.00	
16	2037		572	3.00	1.00	
17	2038		261	1.70	0.73	
18	2039		261	1.00	0.73	
19	2040		261	1.00	0.73	
20	2041		261	1.00	0.73	
21	2042		261	1.00	0.73	
22	2043		261	1.00	0.73	
23	2044		261	1.00	0.73	
24	2045		261	1.00	0.73	
25	2046		261	1.00	0.73	
26	2047		261	1.00	0.73	
27	2048		261	1.00	0.73	
28	2049		261	1.00	0.73	
29	2050		261	1.00	0.73	
30	2051		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
15.1	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.30	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2023
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2023	0.03	1,090	10.0	1.00	4.53
2	2024	0.10	1,090	10.0	1.00	16.4
3	2025	0.10	572	4.75	1.00	4.19
4	2026	0.02	572	3.00	1.00	0.39
5	2027		572	3.00	1.00	
6	2028		572	3.00	1.00	
7	2029		572	3.00	1.00	
8	2030		572	3.00	1.00	
9	2031		572	3.00	1.00	
10	2032		572	3.00	1.00	
11	2033		572	3.00	1.00	
12	2034		572	3.00	1.00	
13	2035		572	3.00	1.00	
14	2036		572	3.00	1.00	
15	2037		572	3.00	1.00	
16	2038		572	3.00	1.00	
17	2039		261	1.70	0.73	
18	2040		261	1.00	0.73	
19	2041		261	1.00	0.73	
20	2042		261	1.00	0.73	
21	2043		261	1.00	0.73	
22	2044		261	1.00	0.73	
23	2045		261	1.00	0.73	
24	2046		261	1.00	0.73	
25	2047		261	1.00	0.73	
26	2048		261	1.00	0.73	
27	2049		261	1.00	0.73	
28	2050		261	1.00	0.73	
29	2051		261	1.00	0.73	
30	2052		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
25.5	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.20	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2024
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2024	0.10	1,090	10.0	1.00	16.4
2	2025	0.10	1,090	10.0	1.00	16.8
3	2026	0.02	572	4.75	1.00	0.62
4	2027		572	3.00	1.00	
5	2028		572	3.00	1.00	
6	2029		572	3.00	1.00	
7	2030		572	3.00	1.00	
8	2031		572	3.00	1.00	
9	2032		572	3.00	1.00	
10	2033		572	3.00	1.00	
11	2034		572	3.00	1.00	
12	2035		572	3.00	1.00	
13	2036		572	3.00	1.00	
14	2037		572	3.00	1.00	
15	2038		572	3.00	1.00	
16	2039		572	3.00	1.00	
17	2040		261	1.70	0.73	
18	2041		261	1.00	0.73	
19	2042		261	1.00	0.73	
20	2043		261	1.00	0.73	
21	2044		261	1.00	0.73	
22	2045		261	1.00	0.73	
23	2046		261	1.00	0.73	
24	2047		261	1.00	0.73	
25	2048		261	1.00	0.73	
26	2049		261	1.00	0.73	
27	2050		261	1.00	0.73	
28	2051		261	1.00	0.73	
29	2052		261	1.00	0.73	
30	2053		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
33.8	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
1.06	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Unmitigated
Receptor:	Existing Residence
Year:	2025
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	0.10	1,090	10.0	1.00	16.8
2	2026	0.02	1,090	10.0	1.00	2.48
3	2027		572	4.75	1.00	
4	2028		572	3.00	1.00	
5	2029		572	3.00	1.00	
6	2030		572	3.00	1.00	
7	2031		572	3.00	1.00	
8	2032		572	3.00	1.00	
9	2033		572	3.00	1.00	
10	2034		572	3.00	1.00	
11	2035		572	3.00	1.00	
12	2036		572	3.00	1.00	
13	2037		572	3.00	1.00	
14	2038		572	3.00	1.00	
15	2039		572	3.00	1.00	
16	2040		572	3.00	1.00	
17	2041		261	1.70	0.73	
18	2042		261	1.00	0.73	
19	2043		261	1.00	0.73	
20	2044		261	1.00	0.73	
21	2045		261	1.00	0.73	
22	2046		261	1.00	0.73	
23	2047		261	1.00	0.73	
24	2048		261	1.00	0.73	
25	2049		261	1.00	0.73	
26	2050		261	1.00	0.73	
27	2051		261	1.00	0.73	
28	2052		261	1.00	0.73	
29	2053		261	1.00	0.73	
30	2054		261	1.00	0.73	

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
19.3	Cancer Risk (Child)
10	Significance Threshold
Yes	Significant?
0.57	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Existing Residence
Year: 2026
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2026	0.02	1,090	10.0	1.00	2.48
2	2027		1,090	10.0	1.00	
3	2028		572	4.75	1.00	
4	2029		572	3.00	1.00	
5	2030		572	3.00	1.00	
6	2031		572	3.00	1.00	
7	2032		572	3.00	1.00	
8	2033		572	3.00	1.00	
9	2034		572	3.00	1.00	
10	2035		572	3.00	1.00	
11	2036		572	3.00	1.00	
12	2037		572	3.00	1.00	
13	2038		572	3.00	1.00	
14	2039		572	3.00	1.00	
15	2040		572	3.00	1.00	
16	2041		572	3.00	1.00	
17	2042		261	1.70	0.73	
18	2043		261	1.00	0.73	
19	2044		261	1.00	0.73	
20	2045		261	1.00	0.73	
21	2046		261	1.00	0.73	
22	2047		261	1.00	0.73	
23	2048		261	1.00	0.73	
24	2049		261	1.00	0.73	
25	2050		261	1.00	0.73	
26	2051		261	1.00	0.73	
27	2052		261	1.00	0.73	
28	2053		261	1.00	0.73	
29	2054		261	1.00	0.73	
30	2055		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.48	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.07	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2021
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2021	-	1,090	10.0	1.00	-
2	2022	0.01	1,090	10.0	1.00	0.94
3	2023	0.01	572	4.75	1.00	0.32
4	2024	0.03	572	3.00	1.00	0.69
5	2025	0.03	572	3.00	1.00	0.77
6	2026	0.00	572	3.00	1.00	0.08
7	2027		572	3.00	1.00	
8	2028		572	3.00	1.00	
9	2029		572	3.00	1.00	
10	2030		572	3.00	1.00	
11	2031		572	3.00	1.00	
12	2032		572	3.00	1.00	
13	2033		572	3.00	1.00	
14	2034		572	3.00	1.00	
15	2035		572	3.00	1.00	
16	2036		572	3.00	1.00	
17	2037		261	1.70	0.73	
18	2038		261	1.00	0.73	
19	2039		261	1.00	0.73	
20	2040		261	1.00	0.73	
21	2041		261	1.00	0.73	
22	2042		261	1.00	0.73	
23	2043		261	1.00	0.73	
24	2044		261	1.00	0.73	
25	2045		261	1.00	0.73	
26	2046		261	1.00	0.73	
27	2047		261	1.00	0.73	
28	2048		261	1.00	0.73	
29	2049		261	1.00	0.73	
30	2050		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.80	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.36	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM		
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM		
350	days per year		
25,550	days per lifetime		
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years	
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years	
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years	
1	fraction of time at home	0<2 Years	
1	fraction of time at home	2<16 Years	
0.73	fraction of time at home	16<70 Years	

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2022
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2022	0.01	1,090	10.0	1.00	0.94
2	2023	0.01	1,090	10.0	1.00	1.29
3	2024	0.03	572	4.75	1.00	1.10
4	2025	0.03	572	3.00	1.00	0.77
5	2026	0.00	572	3.00	1.00	0.08
6	2027		572	3.00	1.00	
7	2028		572	3.00	1.00	
8	2029		572	3.00	1.00	
9	2030		572	3.00	1.00	
10	2031		572	3.00	1.00	
11	2032		572	3.00	1.00	
12	2033		572	3.00	1.00	
13	2034		572	3.00	1.00	
14	2035		572	3.00	1.00	
15	2036		572	3.00	1.00	
16	2037		572	3.00	1.00	
17	2038		261	1.70	0.73	
18	2039		261	1.00	0.73	
19	2040		261	1.00	0.73	
20	2041		261	1.00	0.73	
21	2042		261	1.00	0.73	
22	2043		261	1.00	0.73	
23	2044		261	1.00	0.73	
24	2045		261	1.00	0.73	
25	2046		261	1.00	0.73	
26	2047		261	1.00	0.73	
27	2048		261	1.00	0.73	
28	2049		261	1.00	0.73	
29	2050		261	1.00	0.73	
30	2051		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
4.18	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.36	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2023
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2023	0.01	1,090	10.0	1.00	1.29
2	2024	0.03	1,090	10.0	1.00	4.41
3	2025	0.03	572	4.75	1.00	1.22
4	2026	0.00	572	3.00	1.00	0.08
5	2027		572	3.00	1.00	
6	2028		572	3.00	1.00	
7	2029		572	3.00	1.00	
8	2030		572	3.00	1.00	
9	2031		572	3.00	1.00	
10	2032		572	3.00	1.00	
11	2033		572	3.00	1.00	
12	2034		572	3.00	1.00	
13	2035		572	3.00	1.00	
14	2036		572	3.00	1.00	
15	2037		572	3.00	1.00	
16	2038		572	3.00	1.00	
17	2039		261	1.70	0.73	
18	2040		261	1.00	0.73	
19	2041		261	1.00	0.73	
20	2042		261	1.00	0.73	
21	2043		261	1.00	0.73	
22	2044		261	1.00	0.73	
23	2045		261	1.00	0.73	
24	2046		261	1.00	0.73	
25	2047		261	1.00	0.73	
26	2048		261	1.00	0.73	
27	2049		261	1.00	0.73	
28	2050		261	1.00	0.73	
29	2051		261	1.00	0.73	
30	2052		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
7.01	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.33	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2024
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2024	0.03	1,090	10.0	1.00	4.41
2	2025	0.03	1,090	10.0	1.00	4.90
3	2026	0.00	572	4.75	1.00	0.13
4	2027		572	3.00	1.00	
5	2028		572	3.00	1.00	
6	2029		572	3.00	1.00	
7	2030		572	3.00	1.00	
8	2031		572	3.00	1.00	
9	2032		572	3.00	1.00	
10	2033		572	3.00	1.00	
11	2034		572	3.00	1.00	
12	2035		572	3.00	1.00	
13	2036		572	3.00	1.00	
14	2037		572	3.00	1.00	
15	2038		572	3.00	1.00	
16	2039		572	3.00	1.00	
17	2040		261	1.70	0.73	
18	2041		261	1.00	0.73	
19	2042		261	1.00	0.73	
20	2043		261	1.00	0.73	
21	2044		261	1.00	0.73	
22	2045		261	1.00	0.73	
23	2046		261	1.00	0.73	
24	2047		261	1.00	0.73	
25	2048		261	1.00	0.73	
26	2049		261	1.00	0.73	
27	2050		261	1.00	0.73	
28	2051		261	1.00	0.73	
29	2052		261	1.00	0.73	
30	2053		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
9.43	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.29	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM	
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM	
350	days per year	
25,550	days per lifetime	
1,090	95th Percentile Daily Breathing Rates (L/kg-day)	0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day)	2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day)	16<30 Years
1	fraction of time at home	0<2 Years
1	fraction of time at home	2<16 Years
0.73	fraction of time at home	16<70 Years

Project:	Inglewood Transit
Date:	4-Aug-20
Condition:	Mitigated
Receptor:	Existing Residence
Year:	2025
Scenario:	Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2025	0.03	1,090	10.0	1.00	4.90
2	2026	0.00	1,090	10.0	1.00	0.51
3	2027		572	4.75	1.00	
4	2028		572	3.00	1.00	
5	2029		572	3.00	1.00	
6	2030		572	3.00	1.00	
7	2031		572	3.00	1.00	
8	2032		572	3.00	1.00	
9	2033		572	3.00	1.00	
10	2034		572	3.00	1.00	
11	2035		572	3.00	1.00	
12	2036		572	3.00	1.00	
13	2037		572	3.00	1.00	
14	2038		572	3.00	1.00	
15	2039		572	3.00	1.00	
16	2040		572	3.00	1.00	
17	2041		261	1.70	0.73	
18	2042		261	1.00	0.73	
19	2043		261	1.00	0.73	
20	2044		261	1.00	0.73	
21	2045		261	1.00	0.73	
22	2046		261	1.00	0.73	
23	2047		261	1.00	0.73	
24	2048		261	1.00	0.73	
25	2049		261	1.00	0.73	
26	2050		261	1.00	0.73	
27	2051		261	1.00	0.73	
28	2052		261	1.00	0.73	
29	2053		261	1.00	0.73	
30	2054		261	1.00	0.73	

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
5.41	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.16	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
350	days per year
25,550	days per lifetime
1,090	95th Percentile Daily Breathing Rates (L/kg-day) 0<2 Years
572	80th Percentile Daily Breathing Rates (L/kg-day) 2<16 Years
261	80th Percentile Daily Breathing Rates (L/kg-day) 16<30 Years
1	fraction of time at home 0<2 Years
1	fraction of time at home 2<16 Years
0.73	fraction of time at home 16<70 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: Existing Residence
Year: 2026
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at home	Cancer Risk
1	2026	0.00	1,090	10.0	1.00	0.51
2	2027		1,090	10.0	1.00	
3	2028		572	4.75	1.00	
4	2029		572	3.00	1.00	
5	2030		572	3.00	1.00	
6	2031		572	3.00	1.00	
7	2032		572	3.00	1.00	
8	2033		572	3.00	1.00	
9	2034		572	3.00	1.00	
10	2035		572	3.00	1.00	
11	2036		572	3.00	1.00	
12	2037		572	3.00	1.00	
13	2038		572	3.00	1.00	
14	2039		572	3.00	1.00	
15	2040		572	3.00	1.00	
16	2041		572	3.00	1.00	
17	2042		261	1.70	0.73	
18	2043		261	1.00	0.73	
19	2044		261	1.00	0.73	
20	2045		261	1.00	0.73	
21	2046		261	1.00	0.73	
22	2047		261	1.00	0.73	
23	2048		261	1.00	0.73	
24	2049		261	1.00	0.73	
25	2050		261	1.00	0.73	
26	2051		261	1.00	0.73	
27	2052		261	1.00	0.73	
28	2053		261	1.00	0.73	
29	2054		261	1.00	0.73	
30	2055		261	1.00	0.73	

0.00	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
0.51	Cancer Risk (Child)
10	Significance Threshold
No	Significant?
0.02	Cancer Risk (Adult)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: A Bright Beginning Child Development Center
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.01	631	3.00	0.72	0.06
3	2023	0.01	631	3.00	0.72	0.14
4	2024	0.05	631	3.00	0.72	0.54
5	2025	0.05	631	3.00	0.72	0.49
6	2026	0.01	631	3.00	0.72	0.07

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.31	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Urban Scholar Academy
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.01	631	3.00	0.72	0.07
3	2023	0.01	631	3.00	0.72	0.15
4	2024	0.07	631	3.00	0.72	0.79
5	2025	0.07	631	3.00	0.72	0.75
6	2026	0.01	631	3.00	0.72	0.11

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.87	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: A Bright Beginning Infant and Toddler Center
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.00	631	3.00	0.72	0.02
3	2023	0.08	631	3.00	0.72	0.84
4	2024	0.10	631	3.00	0.72	1.08
5	2025	0.02	631	3.00	0.72	0.20
6	2026	0.01	631	3.00	0.72	0.06

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.20	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM		
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM		
180	days per year		
25,550	days per lifetime		
631	80th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years	

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: A Bright Beginning Child Development Center
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.00	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.02	1	Significance Threshold
3	2023	0.00	631	3.00	0.72	0.04	No	Significant?
4	2024	0.01	631	3.00	0.72	0.15	0.36	Cancer Risk (Child)
5	2025	0.01	631	3.00	0.72	0.14	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.01	No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM		
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM		
180	days per year		
25,550	days per lifetime		
631	80th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years	

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: Urban Scholar Academy
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.00	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.02	1	Significance Threshold
3	2023	0.00	631	3.00	0.72	0.04	No	Significant?
4	2024	0.02	631	3.00	0.72	0.21	0.50	Cancer Risk (Child)
5	2025	0.02	631	3.00	0.72	0.22	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.01	No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM		
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM		
180	days per year		
25,550	days per lifetime		
631	80th Percentile Daily Breathing Rates (L/kg-day)	2<9 Years	

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: A Bright Beginning Infant and Toddler Center
Scenario: Morning/Evening

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.01	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.01	1	Significance Threshold
3	2023	0.02	631	3.00	0.72	0.23	No	Significant?
4	2024	0.03	631	3.00	0.72	0.30	0.60	Cancer Risk (Child)
5	2025	0.01	631	3.00	0.72	0.06	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.01	No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: A Bright Beginning Child Development Center
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.01	631	3.00	0.72	0.06
3	2023	0.01	631	3.00	0.72	0.15
4	2024	0.06	631	3.00	0.72	0.61
5	2025	0.05	631	3.00	0.72	0.54
6	2026	0.01	631	3.00	0.72	0.08

0.01	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
1.44	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: Urban Scholar Academy
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.01	631	3.00	0.72	0.06
3	2023	0.01	631	3.00	0.72	0.15
4	2024	0.08	631	3.00	0.72	0.88
5	2025	0.08	631	3.00	0.72	0.83
6	2026	0.01	631	3.00	0.72	0.12

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.04	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Unmitigated
Receptor: A Bright Beginning Infant and Toddler Center
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk
1	2021	-	631	3.00	0.72	-
2	2022	0.00	631	3.00	0.72	0.02
3	2023	0.09	631	3.00	0.72	0.94
4	2024	0.11	631	3.00	0.72	1.20
5	2025	0.02	631	3.00	0.72	0.22
6	2026	0.01	631	3.00	0.72	0.07

0.02	Chronic Hazard Impact
1	Significance Threshold
No	Significant?
2.45	Cancer Risk (Child)
10	Significance Threshold
No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: A Bright Beginning Child Development Center
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.00	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.02	1	Significance Threshold
3	2023	0.00	631	3.00	0.72	0.04	No	Significant?
4	2024	0.02	631	3.00	0.72	0.16	0.40	Cancer Risk (Child)
5	2025	0.02	631	3.00	0.72	0.16	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.02	No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: Urban Scholar Academy
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.00	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.02	1	Significance Threshold
3	2023	0.00	631	3.00	0.72	0.04	No	Significant?
4	2024	0.02	631	3.00	0.72	0.24	0.55	Cancer Risk (Child)
5	2025	0.02	631	3.00	0.72	0.24	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.01	No	Significant?

Health Risk Assessment Assumptions

5	Chronic Reference Exposure Level (ug/m3) for DPM
1.1	Cancer Potency Slope Factor (cancer risk per mg/kg-day) for DPM
180	days per year
25,550	days per lifetime
631	80th Percentile Daily Breathing Rates (L/kg-day) 2<9 Years

Project: Inglewood Transit
Date: 4-Aug-20
Condition: Mitigated
Receptor: A Bright Beginning Infant and Toddler Center
Scenario: Morning/Night

Exposure Year	Calender Year	Annual PM2.5 Concentration (ug/m3)	Daily Breathing Rates (L/kg-day)	Exposure Factor	fraction of time at school	Cancer Risk		
1	2021	-	631	3.00	0.72	-	0.01	Chronic Hazard Impact
2	2022	0.00	631	3.00	0.72	0.01	1	Significance Threshold
3	2023	0.02	631	3.00	0.72	0.25	No	Significant?
4	2024	0.03	631	3.00	0.72	0.34	0.67	Cancer Risk (Child)
5	2025	0.01	631	3.00	0.72	0.06	10	Significance Threshold
6	2026	0.00	631	3.00	0.72	0.01	No	Significant?

Attachment C

Supplemental Health Impact Information (Friant Ranch Case)

The proposed Project is located in Los Angeles County within the South Coast Air Basin. The Basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

The South Coast Air Quality Management District (SCAQMD) has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Basin is a subregion of the SCAQMD jurisdiction. While air quality in this area has improved compared to past decades, the Basin requires continued diligence to meet air quality standards. The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). These plans require control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted emission sources, and transportation control measures.

In March of 2017, the SCAQMD adopted the 2016 AQMP which includes strategies and measures needed to meet the NAAQS. The AQMP demonstrates attainment of the ozone NAAQS as well as the latest $PM_{2.5}$ standards.[1] The SCAQMD also adopts rules and regulations to implement portions of the AQMP.

Part of the control process of the SCAQMD's duty to improve the air quality in the Basin is the uniform CEQA review procedures required by SCAQMD's CEQA Handbook. The thresholds of significance used to assess a project's direct and cumulative impacts have contributed to improving air quality within the Basin over the past decades. The District's thresholds of significance are based on factual and scientific data and are therefore appropriate thresholds of significance to use for the proposed Inglewood Transit Project.

The recent Sierra Club v. County of Fresno California Supreme Court case held, in part, that the Friant Ranch Specific Plan EIR (Friant Ranch EIR) was deficient in the informational discussion of air quality impacts as they connect to adverse human health effects. The Supreme Court concluded that an EIR's discussion must "make [ ] a reasonable effort to substantively connect a project's air quality impacts to likely health consequences."

[1] South Coast Air Quality Management District, 2016 Air Quality Management Plan, March 1, 2017, Accessed July 7, 2020 at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan

For the proposed Project, daily construction emissions of NOx (a precursor to the formation of ozone) would exceed significance thresholds resulting in a significant and unavoidable impact even with mitigation. Thus, the proposed Project would contribute to regional ozone contributions but determining potential health impacts caused directly by the construction activities is not feasible.

According to the San Joaquin Valley Air Pollution Control District (SJVAPCD), it is not possible to determine ozone concentrations or make a direct correlation to human health impacts, because project-focused modeling cannot feasibly predict ozone formation and resulting regional ozone concentrations. South Coast Air Quality Management District (SCAQMD) has indicated that applicable methods do exist but are not applicable or feasible in most cases. The Court did not rule on whether health impacts of the named pollutants were scientifically feasible to predict, but it did state that: "if it is not scientifically possible to do more than has already been done to connect air quality effects with potential human health impacts, the Friant Ranch EIR itself must explain why, in a manner reasonably calculated to inform the public of the scope of what is and is not yet known about the project's impacts."

The current modeling tools are not equipped to provide meaningful analysis of the correlation between a project's criteria pollutant or pollutant precursor emissions and specific health impacts. Air dispersion modeling is available, such as the American Meteorological Society/ Environmental Protection Agency Regulatory Model (AERMOD), but these models cannot accurately estimate dispersion of ozone. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, atmospheric stability, and wind patterns. Because of the dynamic nature of ozone formation and the complexities of predicting ground-level ozone concentrations in relation to ambient standards, air districts instead generally develop mass emissions thresholds for NOx that are used to make significance determinations.

In summary, modeling of the proposed Project's ozone emissions is not feasible and would not provide meaningful information given the number of variables that affect ozone formation (e.g., location of activity and weather on that day that results in conversion of precursor emissions into ozone). However, as shown in **Section 9**, the resultant air concentrations for the proposed Project would be below the significance thresholds and thus, the air quality health impacts due to the construction criteria air pollutant emissions would be expected to be less than significant. Nevertheless, the health impacts due to diesel particulate emissions would be potentially above the significance thresholds and would potentially be significant.

As stated by the California Supreme Court, an EIR should relate the expected adverse air quality impacts to likely health consequences or explain in meaningful detail why it is not feasible to provide such an analysis. In its Friant Ranch decision, the California Supreme Court conceded that an explanation of the connection between an individual project's air pollutant emissions in excess of thresholds and human health effects may not be possible given the current state of environmental science modeling. However, the California Supreme Court concluded that the Friant Ranch Project EIR itself must explain, in a manner reasonably calculated to inform the public, the scope of what is and is not yet known about the effect of the Project's significant and unavoidable air quality impacts on human health.

As explained within the following, modeling of the Inglewood Transit Project's ozone emissions is not feasible and would not provide meaningful information given the magnitude of the emissions and the number of variables that affect ozone formation (e.g., mass of precursor emissions, background concentrations for all other emission sources in the air basin, location of activity and weather on that day that results in conversion of precursor emissions into ozone).

Consistent with the California Supreme Court's Friant Ranch decision, the analyses presented provides additional details regarding the potential health effects from the proposed Inglewood Transit's significant and unavoidable criteria pollutant construction emissions of NOx. It also explains why it is not scientifically feasible to substantively connect this individual Proposed Project's air quality impacts to likely health consequences. The criteria air pollutant construction emissions of NOx for the project are too small to model and obtain meaningful regional concentrations of criteria air pollutants and ozone.

The following information is intended to fulfil the requirements of the Superior Court decision related to the health impacts from significant and unavoidable air pollutant emissions of NOx, and related ozone. This attachment describes, in a manner intended to inform the public, why additional modeling is not feasible or meaningful given the details of the proposed Project and current state of air quality modeling.

Criteria Air Quality Pollutant Emissions and Health Impacts

In response to the California Supreme Court's Sierra Club v. County of Fresno decision (issued on December 24, 2018, and commonly referred to as the "Friant Ranch" decision), this response addresses the potential for adverse health effects from the emissions of criteria air pollutants associated with the proposed Inglewood Transit, based on scientific information and technological methods available at this time. The Friant Ranch decision addresses the relationship between significant and unavoidable pollutant emissions to specific health consequences, where "*The EIR must provide an adequate analysis to inform the public how its bare numbers translate to create potential adverse impacts or it must explain what the agency does know and why, given existing scientific constraints, it cannot translate potential health impacts further*." (Sierra Club v. County of Fresno, 2018).

Given that the air quality analysis for the proposed Project identifies a significant and unavoidable project level impacts with regard to nitrogen oxides (NOx) emissions, the following serves to address the requirements imposed under the Friant Ranch decision. Per

SCAQMD significance guidance, these impacts at the project level are also considered cumulatively significant and could occur during the construction period. NOx is an ozone precursor and emissions of NOx have the potential to contribute to existing ozone non-attainment conditions within the South Coast Air Basin (Air Basin).

Criteria Air Pollutant Health Impacts

"Criteria" air pollutants refer to those air pollutants for which the USEPA has established NAAQS under the Federal Clean Air Act, including Carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter equal to or greater than 10 micrometers (coarse particulate or PM_{10}), and particulate matter equal to or greater than 2.5 micrometers (fine particulate or $PM_{2.5}$). California has adopted ambient standards (known as CAAQS) that are more stringent than the federal standards for some criteria air pollutants. The following provides a brief summary of the potential health and welfare effects and typical sources of each of the criteria air pollutants and air toxics.

Numerous scientific studies published over the past 50 years point to the harmful effects of air pollution. The AAQS are designed to prevent these effects. The adverse health effects associated with air pollution are diverse and include[2]:

- Premature mortality
- Cardiovascular effects
- Increased health care utilization (hospitalization, physician and emergency room visits)
- Increased respiratory illness and other morbidity (symptoms, infections, and asthma exacerbation
- Decreased lung function (breathing capacity)
- Lung inflammation
- Potential immunological changes
- Increased airway reactivity to a known pharmacological agent exposure - a method used in laboratories to evaluate the tendency of airways to have an increased possibility of developing an asthmatic response
- A decreased tolerance for exercise
- Adverse birth outcomes such as low birth weights

[2] South Coast Air Quality Management District, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017, Accessed July 9, 2020 at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14

The evidence linking these effects to air pollutants is derived from population-based observational and field studies (epidemiological) as well as controlled laboratory studies involving human subjects and animals. There have been an increasing number of studies focusing on the mechanisms (that is, on learning how specific organs, cell types, and biomarkers are involved in the human body's response to air pollution) and specific pollutants responsible for individual effects. Yet the underlying biological pathways for these effects are not always clearly understood.[3]

Although individuals inhale pollutants as a mixture under ambient conditions, the regulatory framework and the control measures developed are pollutant-specific for six major outdoor pollutants covered under Sections 108 and 109 of the Clean Air Act. This is appropriate, in that different pollutants usually differ in their sources, their times and places of occurrence, the kinds of health effects they may cause, and their overall levels of health risk. Different pollutants, from the same or different sources, oftentimes occur together. Evidence for more than additive effects has not been strong and, as a practical matter, health scientists, as well as regulatory officials, usually must deal with one pollutant at a time in adopting AAQS.[4]

Health effects associated with criteria air pollutants are discussed within the following:

Ozone (O_3)

O_3 is a respiratory irritant and an oxidant that increases susceptibility to respiratory infections and that can cause substantial damage to vegetation and other materials. O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving ROG and NO_x. ROG and NO_x are therefore known as precursor compounds for O_3. Substantial ozone production generally requires O_3 precursors to be present in a stable atmosphere with strong sunlight for approximately three hours. O_3 is defined as a regional air pollutant because it is not emitted directly by specific sources but is formed downwind of sources of ROG and NO_x under the influence of wind and sunlight. O_3 concentrations tend to be higher in the late spring, summer, and fall, when long sunny days combine with regional air subsidence inversions to create conditions conducive to the formation and accumulation of secondary photochemical compounds.

Inhalation of O_3 causes inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to O_3 can reduce the volume of air that the

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3 South Coast Air Quality Management District, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017, Accessed July 9, 2020 at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14

4 South Coast Air Quality Management District, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017, Accessed July 9, 2020 at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14

lungs breathe in and cause shortness of breath. O_3 in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from O_3 exposure vary widely among individuals, even when the dose and the duration of exposure are the same. Research shows adults and children who spend more time outdoors participating in vigorous physical activities are at greater risk from the harmful health effects of O_3 exposure.

While there are relatively few studies of ozone's effects on children, the available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are a number of reasons why children may be more susceptible to O_3 and other pollutants. Children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults. Children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults. Also, children are less likely than adults to notice their own symptoms and avoid harmful exposures. Further research may be able to better distinguish between health effects in children and adults. Children, adolescents and adults who exercise or work outdoors, where O_3 concentrations are the highest, are at the greatest risk of harm from this pollutant.[5]

A number of population groups are potentially at increased risk for O_3 exposure effects. In the ongoing review of O_3, the USEPA has identified populations as having adequate evidence for increased risk from O_3 exposures include individuals with asthma, younger and older age groups, individuals with reduced intake of certain nutrients such as Vitamins C and E, and outdoor workers. There is suggestive evidence for other potential factors, such as variations in genes related to oxidative metabolism or inflammation, gender, socioeconomic status, and obesity. However further evidence is needed.[6] The adverse effects reported with short-term O_3 exposure are greater with increased activity because activity increases the breathing rate and the volume of air reaching the lungs, resulting in an increased amount of O_3 reaching the lungs.[7]

Carbon Monoxide (CO)

CO is a non–reactive pollutant that is a product of incomplete combustion of organic material, and is mostly associated with motor vehicle traffic, and in wintertime, with wood–burning stoves and fireplaces. High CO concentrations develop primarily during winter when periods of light winds combine with the formation of ground–level temperature inversions (typically

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[5] California Air Resources Board, Ozone & Health, 2019, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/ozone-and-health

[6] South Coast Air Quality Management District, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017, July 9, 2020 at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14

[7] South Coast Air Quality Management District, 2016 Air Quality Management Plan Appendix I, Health Effects, March 2017, Accessed July 9, 2020 at: https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/appendix-i.pdf?sfvrsn=14

from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen–carrying capacity, resulting in reduced levels of oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s when CO levels were regularly exceeded throughout California, but in more recent years, CO measurements and modeling are not a priority in most California air districts due to the retirement of older vehicles, fewer emissions from new vehicles, and improvements to fuels.[8]

Nitrogen Oxides (NO_x)

When combustion temperatures are extremely high, as in aircraft, truck and automobile engines, atmospheric nitrogen combines with oxygen to form various oxides of nitrogen. Nitric oxide (NO) and nitrogen dioxide (NO_2) are the most significant air pollutants generally referred to as NO_x. Nitric oxide is a colorless and odorless gas that is relatively harmless to humans, quickly converts to NO_2 and can be measured. Nitrogen dioxide has been found to be a lung irritant capable of producing pulmonary edema. Inhaling NO_2 can lead to respiratory illnesses such as bronchitis and pneumonia. Nitrate particles and NO_2 can also block the transmission of light, reducing visibility in urban areas.

A large body of health science literature indicates that exposure to NO_2 can induce adverse health effects. The strongest health evidence, and the health basis for the AAQS for NO_2, results from controlled human exposure studies that show that NO_2 exposure can intensify responses to allergens in allergic asthmatics. In addition, a number of epidemiological studies have demonstrated associations between NO_2 exposure and premature death, cardiopulmonary effects, decreased lung function growth in children, respiratory symptoms, emergency room visits for asthma, and intensified allergic responses.

As with other pollutants, infants and children are particularly at risk because they have disproportionately higher exposure to NO_2 than adults due to their greater breathing rate for their body weight and their typically greater outdoor exposure duration. Several studies have shown that long-term NO_2 exposure during childhood, the period of rapid lung growth, can lead to smaller lungs at maturity in children with higher compared to lower levels of exposure. In addition, children with asthma have a greater degree of airway responsiveness compared

[8] California Air Resources Board, 2019, Carbon Monoxide & Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/carbon-monoxide-and-health

with adult asthmatics. In adults, the greatest risk is to people who have chronic respiratory diseases, such as asthma and chronic obstructive pulmonary disease.[9]

Particulate Matter (PM_{10} and $PM_{2.5}$)

PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs, causing adverse health effects. Particulate matter in the atmosphere results from many kinds of dust– and fume–producing industrial and agricultural operations, fuel combustion, wood burning stoves and fireplaces, and atmospheric photochemical reactions. Some sources of particulate matter, such as demolition, construction activities and mining, are more local in nature, while others, such as vehicular traffic and wood burning stoves and fireplaces, have a more regional effect.

For $PM_{2.5}$, short-term exposures (up to 24-hours duration) have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. In addition, of all of the common air pollutants, $PM_{2.5}$ is associated with the greatest proportion of adverse health effects related to air pollution, both in the United States and world-wide based on the World Health Organization's Global Burden of Disease Project. Short-term exposures to PM_{10} have been associated primarily with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency room visits.[10]

Long-term (months to years) exposure to $PM_{2.5}$ has been linked to premature death, particularly in people who have chronic heart or lung diseases, and reduced lung function growth in children. The effects of long-term exposure to PM_{10} are less clear, although several studies suggest a link between long-term PM_{10} exposure and respiratory mortality. The International Agency for Research on Cancer published a review in 2015 that concluded that PM in outdoor air pollution causes lung cancer.[11]

People with influenza, people with chronic respiratory and cardiovascular diseases, and older adults may suffer worsening illness and premature death as a result of breathing PM. People with bronchitis can expect aggravated symptoms from breathing PM. Children may experience a decline in lung function due to breathing in PM_{10} and $PM_{2.5}$.

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[9] California Air Resources Board, 2019, Nitrogen Dioxide & Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/nitrogen-dioxide-and-health

[10] California Air Resources Board, 2019, Inhalable Particulate Matter Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health

[11] California Air Resources Board, 2019, Inhalable Particulate Matter Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health

Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates can also damage materials and reduce visibility. Dust comprised of large particles settles out rapidly and is easily filtered by human breathing passages. This dust is of concern more as a soiling nuisance rather than a health hazard. The remaining fractions, PM_{10} and $PM_{2.5}$, are a health concern particularly at levels above the Federal and State ambient air quality standards. $PM_{2.5}$ (including diesel exhaust particles) is thought to have greater effects on health, because these particles are so small and thus are able to penetrate to the deepest parts of the lungs.

Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis, and respiratory illnesses in children. Mortality studies since the 1990s have shown a statistically significant direct association between mortality (premature deaths) and daily concentrations of particulate matter in the air. Despite important gaps in scientific knowledge and continued reasons for some skepticism, a comprehensive evaluation of the research findings provides persuasive evidence that exposure to fine particulate air pollution has adverse effects on cardiopulmonary health. The CARB has estimated that achieving the ambient air quality standards for PM_{10} could reduce premature mortality rates by 6,500 cases per year.[12]

Sulfur Dioxide (SO_2)

A colorless gas, SO_2 is formed when fuels containing sulfur compounds are combusted. SO_2 can cause irritation and inflammation of tissues with which it comes in contact. Inhaling elevated concentrations can irritate mucous membranes, cause bronchial damage, and exacerbate pre-existing respiratory diseases such as asthma, bronchitis, and emphysema. Sulfate particles are the major cause of reduced visibility in many areas of the United States. When combined with other substances in the air, this pollutant can fall to the earth as rain, fog, snow, or dry particles (commonly referred to as "acid rain"). SO_2 can also accelerate the decay of building materials and certain types of paint.

SO_2 is a combustion product of sulfur or sulfur–containing fuels such as coal and diesel. SO_2 is also a precursor to the formation of atmospheric sulfate and particulate matter, and contributes to potential atmospheric sulfuric acid formation that could precipitate downwind as acid rain. The maximum SO_2 concentrations recorded in the project area are well below federal and State standards; as a result, the area is in attainment status with both federal and State SO_2 standards.

Controlled human exposure and epidemiological studies show that children and adults with asthma are more likely to experience adverse responses with SO_2 exposure, compared with the

[12] California Air Resources Board, 2019, Inhalable Particulate Matter Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health

non-asthmatic population. Effects at levels near the one-hour standard are those of asthma exacerbation, including bronchoconstriction accompanied by symptoms of respiratory irritation such as wheezing, shortness of breath and chest tightness, especially during exercise or physical activity. Also, exposure at elevated levels of SO_2 (above 1 ppm) results in increased incidence of pulmonary symptoms and disease, decreased pulmonary function, and increased risk of mortality. The elderly and people with cardiovascular disease or chronic lung disease (such as bronchitis or emphysema) are most likely to experience these adverse effects.[13]

Lead

People and animals can be exposed to Pb by breathing or ingesting it in food, water, soil, or dust. Historically, the majority of Pb has come from the combustion of leaded fuels. However, the use of unleaded fuels since 1975 has reduced mobile source Pb emissions by more than 90 percent. Unlike unleaded automobile gasoline, aviation gasoline (commonly known as Avgas, or 100LL, for 100 octane low-lead) still contains Pb as an antiknock agent.

Ambient lead concentrations meet both the federal and State standards in the project area. Lead has a range of adverse neurotoxin health effects, and was released into the atmosphere via leaded gasoline products. The phase–out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead. Ambient lead concentrations meet both the federal and State standards in the project area. Lead has a range of adverse neurotoxin health effects, and was released into the atmosphere via leaded gasoline products. The phase–out of leaded gasoline in California has resulted in dramatically decreased levels of atmospheric lead. Metal processing is currently the primary source of lead emissions in the SCAB. The highest concentrations of lead in air are generally found near lead smelters and general aviation airports; where piston aircraft use leaded fuel. Other stationary sources that generate lead emissions include waste incinerators, utilities, and lead-acid battery manufacturers.

Reactive Organic Gases (ROGs) / Volatile Organic Compounds (VOCs)

The terms ROG and VOC are often used interchangeably, and the terminology will vary from air district to air district. Volatile organic compounds (VOC) means any compound of carbon, excluding carbon monoxide, carbon dioxide (CO_2), carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions and thus, a precursor of ozone formation. ROGs are any reactive compounds of carbon, excluding methane, CO, CO_2 carbonic acid, metallic carbides or carbonates, ammonium carbonate, and other exempt compounds.

ROGs include a variety of chemicals, some of which may have short- and long-term adverse health effects. ROGs are emitted by a wide array of products numbering in the thousands.

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[13] California Air Resources Board, 2019. Sulfur Dioxide & Health, Accessed July 9, 2020 at: https://ww2.arb.ca.gov/resources/sulfur-dioxide-and-health

Examples include paints and lacquers, paint strippers, cleaning supplies, building materials and furnishings as well as fuel storage and use.

ROGs can cause eye, nose, and throat irritation; headaches, loss of coordination, nausea, and damage to liver, kidney, and central nervous system. Some organics can cause cancer in animals; some are suspected or known to cause cancer in humans. The ability of organic chemicals to cause health effects varies greatly from those that are highly toxic, to those with no known health effect. As with other pollutants, the extent and nature of the health effect will depend on many factors including level of exposure and length of time exposed. Eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment are among the immediate symptoms that some people have experienced soon after exposure to some organics.

Existing Air Quality in the Inglewood Vicinity

The SCAQMD maintains a network of monitoring stations within Los Angeles County that monitor air quality and compliance with applicable ambient standards. The nearest air monitoring station which measures CO, NO_2, SO_2, and PM_{10} is located near Los Angeles International Airport (7201 West Westchester Parkway, Southwest Coastal LA County, Station 820), four miles to the west of the Project site. The nearest air monitoring station which measures $PM_{2.5}$ is located in central Los Angeles (1630 North Main Street, Central LA, Station 087), ten miles to the northeast of the Project site. This monitoring data for 2017 through 2019 from the nearby monitoring stations is summarized in **Table C-1**.

Regional Air Quality Trends

While air quality has improved, the Basin requires continued diligence to meet air quality standards. The SCAQMD has adopted a series of AQMP to meet the CAAQS and NAAQS. These plans require control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted emission sources and transportation control measures.

SCAQMD rule development through the 1970s and 1980s resulted in dramatic improvement in Basin air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the Basin. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

Ozone, NOx, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease. These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NOx and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NOx emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy.

Table C-1
Air Quality Data Summary (2017 - 2019)

		Monitoring Data by Year		
Pollutant	**Standard[s]**	**2017**	**2018**	**2019**
Ozone				
Highest 1 Hour Average (ppm)[b]	0.09	0.086	0.074	0.082
Days over State Standard	—	0	0	0
Highest 8 Hour Average (ppm)[b]	0.070	0.070	0.065	0.067
Days over National Standard	—	0	0	0
Highest 8 Hour Average (ppm)[b]	0.070	0.070	0.060	0.060
Days over State Standard	—	0	0	0
Nitrogen Dioxide				
Highest 1 Hour Average (ppm)[b]	0.180/0.100	0.072	0.060	0.057
Days over State Standard	—	0	0	0
Annual Average (ppm) [b]	0.030/0.053	0.009	0.009	0.010
Carbon Monoxide				
Highest 1 Hour Average (ppm)[b]	20.0	2.1	1.8	1.8
Days over State Standard	—	0	0	0
Highest 8 Hour Average (ppm)[b]	9.0	1.6	1.5	1.3
Days over State Standard	—	0	0	0
Particulate Matter (PM10)				
Highest 24 Hour Average (µg/m3)[b]	50	46	45	**62**
Days over State Standard	—	0	0	2
State Annual Average (µg/m3) [b]	20	19.8	**20.5**	19.2
Particulate Matter (PM2.5)				
Highest 24 Hour Average (µg/m3)[b]	35	27.8	30.5	**43.5**
Days over National Standard	—	0	0	1
State Annual Average (µg/m3)[b]	12	11.9	**12.6**	10.9

NOTES: Values in ***bold*** *are in excess of at least one applicable standard.*
Generally, State and national standards are not to be exceeded more than once per year.
ppm = parts per million; µg/m³ = micrograms per cubic meter.
PM_{10} is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.
Source: South Coast Air Quality Management District, Annual Air Quality Summaries, Accessed July 7, 2020 at: http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year

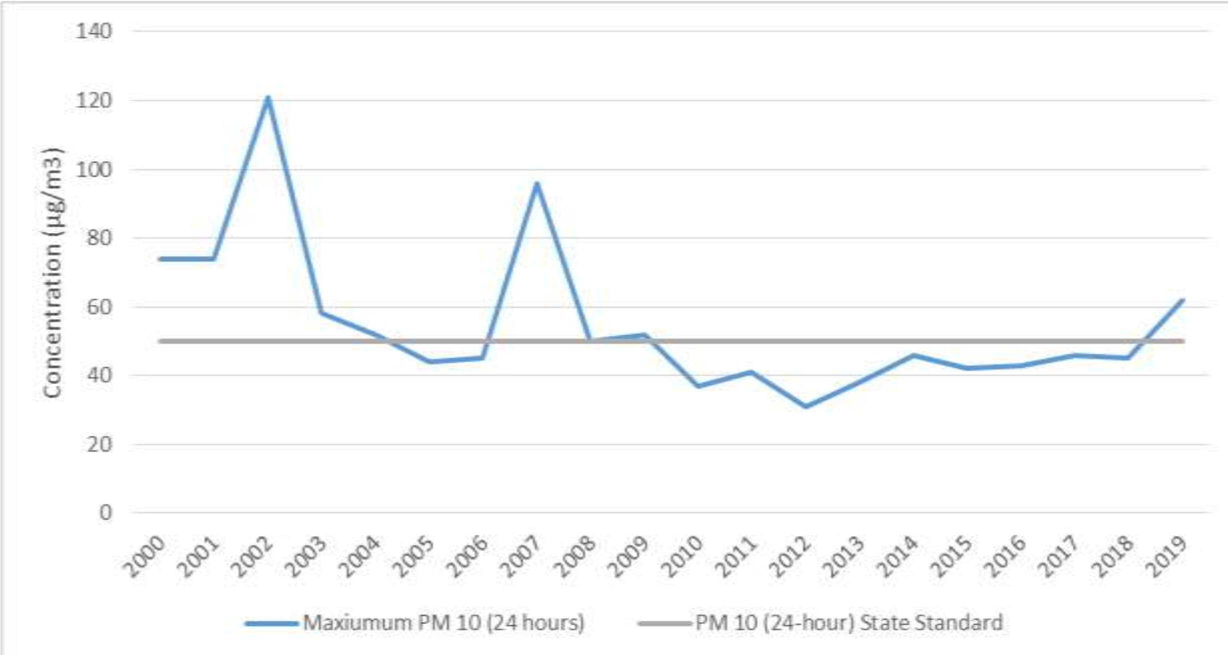
The overall trends of PM_{10} and $PM_{2.5}$ levels in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the

Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

The nearest air monitoring station which measures CO, NO_2, SO_2, and PM_{10} is located near Los Angeles International Airport (7201 West Westchester Parkway, Southwest Coastal LA County, Station 820), four miles to the west of the Project site. The nearest air monitoring station which measures $PM_{2.5}$ is located in central Los Angeles (1630 North Main Street, Central LA, Station 087), ten miles to the northeast of the Project site. **Figures C-1 through C-11** show the trend in ambient concentrations of PM_{10}, $PM_{2.5}$, CO, NO_2, and ozone at closest monitoring station.

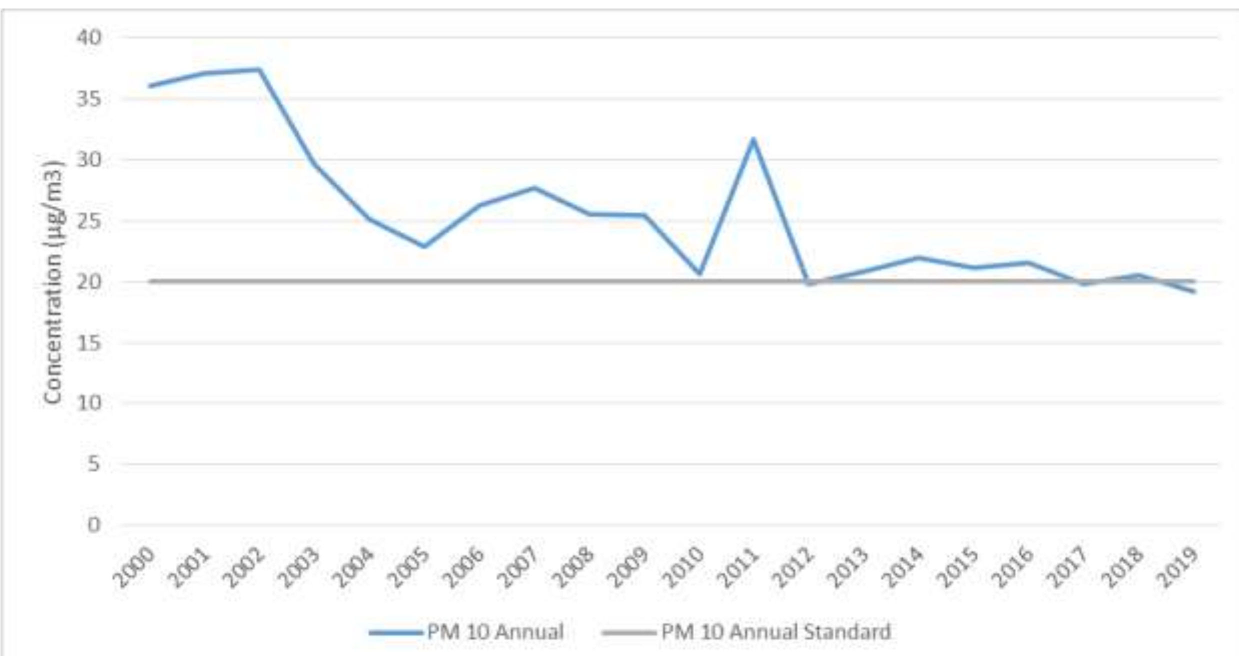
Recent PM_{10} statistics (2000 through 2019) in the Basin show overall improvement as illustrated in **Figures C-1 through C-2**. As shown in **Figure C-1**, the maximum 24-hour average concentration for PM_{10} decreased by approximately 17 percent, from 74 $\mu g/m^3$ in 2000 to 62 $\mu g/m^3$ in 2019, with a peak of 121 $\mu g/m^3$ in 2002. Although the values are above the State standard of 50 $\mu g/m^3$, there were only 10 days in 2018 where the 24-hour maximum measurement exceeded the state standard (approximately 17 percent of the number of days of recorded data [60]). As shown in **Figure C-1, f**rom 2010 through 2019, Maximum 24-Hour PM_{10} concentrations were below the state standard. As shown in **Figure C-2**, the annual average for PM_{10} has decreased by approximately 47 percent, from 36.1 $\mu g/m^3$ in 2000 to 19.2 $\mu g/m^3$ in 2019, with a peak of 37.4 $\mu g/m^3$ in 2002. The annual average for PM_{10} was above the state standard of 20 $\mu g/m^3$ from 2000 through 2011, 2013 through 2016 and in 2018.

Figure C-1: Maximum 24-Hour PM_{10} Concentration (µg/m^3) Compared to State Standard



Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

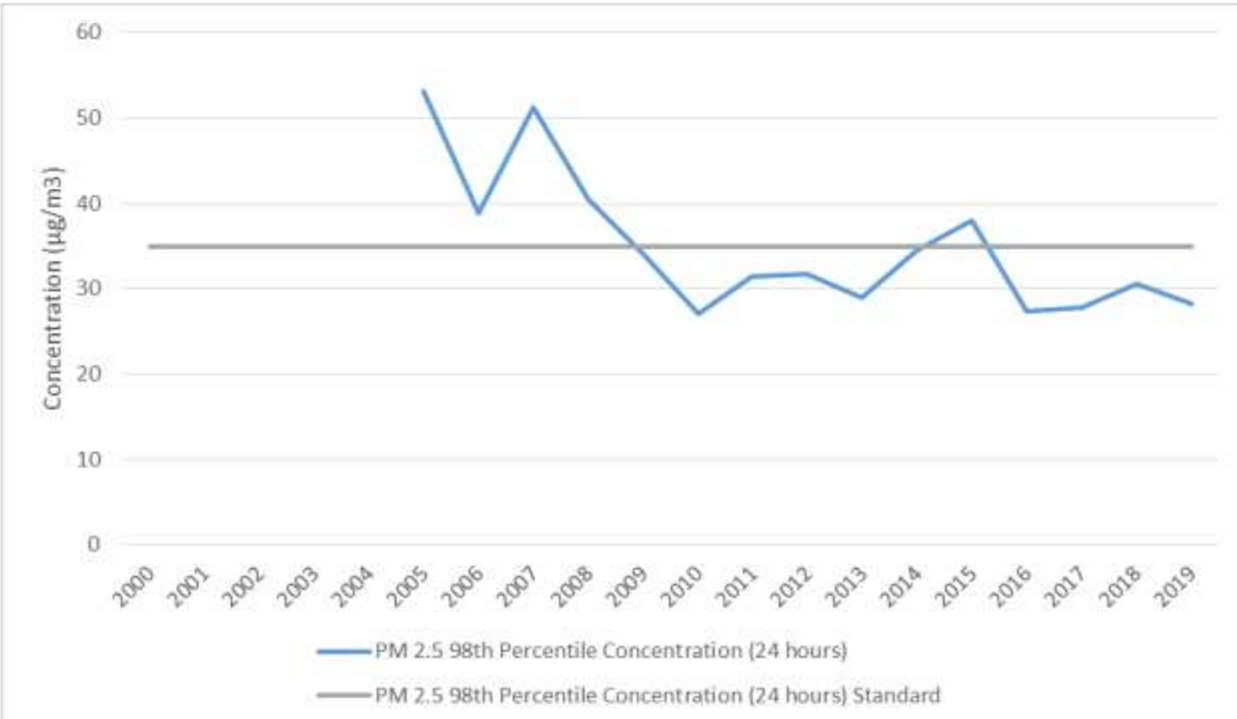
Figure C-2: Annual Average PM_{10} Concentration (µg/m^3)



Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

Figures C-3 and C-4 show the most recent 24-hour average $PM_{2.5}$ concentrations in the Basin (2000 through 2019). As shown in **Figure C-3**, the 24-hour (98th percentile) concentration has decreased 47 percent from 53.2 µg/m³ in 2005 to 28.3 µg/m³ in 2019. As shown in **Figure C-4**, the annual average trend has decreased by 50 percent from 22 µg/m³ in 2000 to 10.9 µg/m³ in 2019. The SCAB is currently designated as nonattainment for the State and federal $PM_{2.5}$ standards.

Figure C-3: 24-Hour $PM_{2.5}$ Concentration (µg/m³)



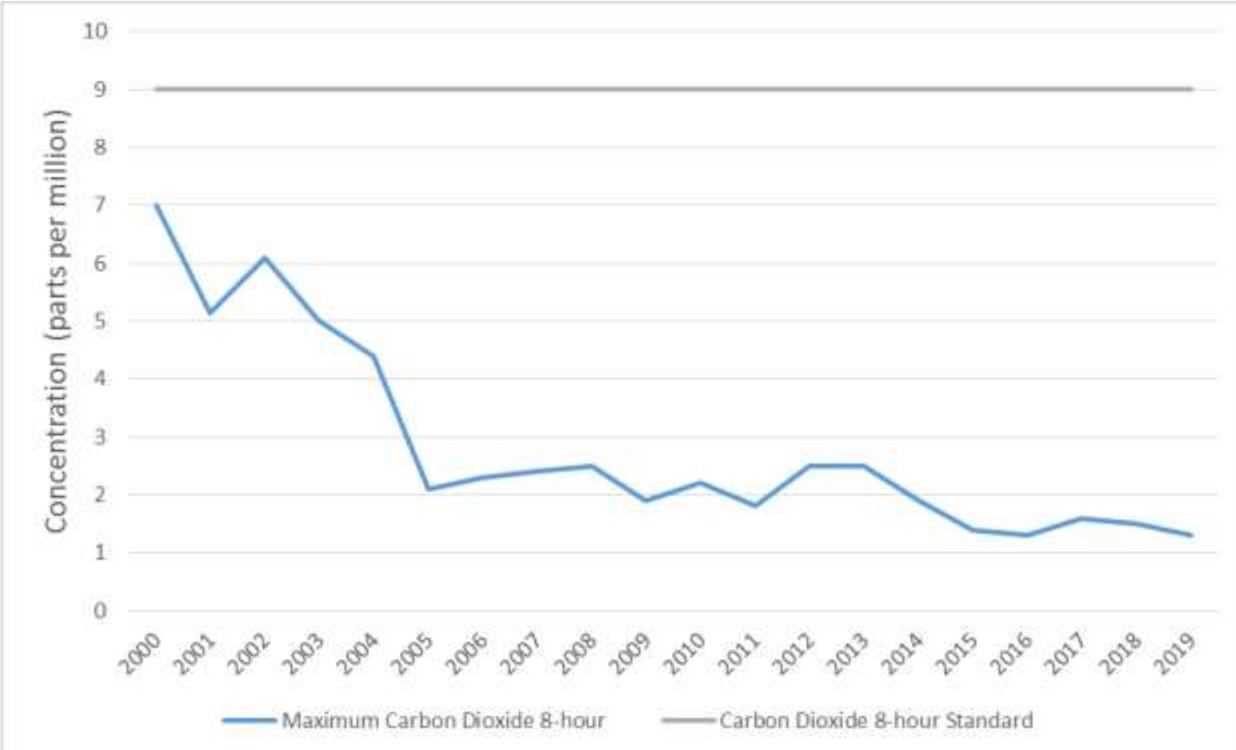
Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

Figure C-4: Annual Average $PM_{2.5}$ Concentration (µg/m³)

Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

Figure C-5 shows the most recent maximum 8-hour CO concentrations in the SCAB (2000-2019). The 2019 maximum 8-hour CO concentration in the SCAB has decreased approximately 81 percent from 2000 concentration. The entire SCAB is now designated as attainment for both the state and national CO standards. Ongoing reductions from motor vehicle control programs should continue the downward trend in ambient CO concentrations.

Figure C-5: Maximum 8-Hour CO Concentration (ppm)



Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

The most recent NO_2 data for the SCAB is shown in **Figure C-6**. Over the last 50 years, NO_2 values have decreased significantly; the peak 1-hour national and state averages for 2017 is approximately 77 percent lower than what it was during 1963. The SCAB attained the State 1-hour NO_2 standard in 1994, bringing the entire State into attainment. NO_2 is formed from NOx emissions, which also contribute to ozone. As a result, the majority of the future emission control measures will be implemented as part of the overall ozone control strategy. Many of these control measures will target mobile sources, which account for more than three-quarters of California's NOx emissions. These measures are expected to bring the South Coast into attainment of the State annual average standard.

Recent NO_2 data (2000 through 2019) indicate decreasing NO_2 emissions. As shown in **Figure C-6**, there was a 54 percent decrease from 130 parts per billion (ppb) in 2000 to 60 ppb in 2019 for maximum 1-hour concentrations of NO_2. Records indicate the lowest NO_2 1-hour maximum concentrations in the past 19 years (56.6 ppb) occurred in 2019.

Figure C-6: Maximum 1-Hour NO_2 Concentration (ppm)

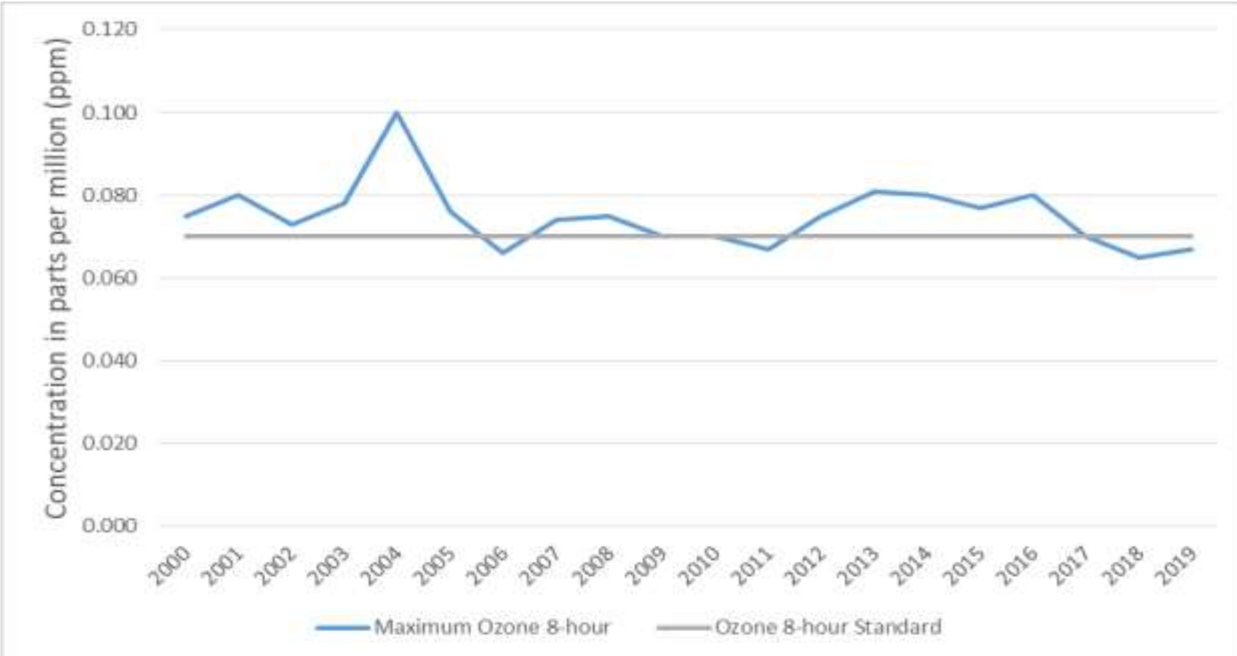
Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

The American Lung Association website includes data collected from State air quality monitors that are used to compile an annual State of the Air. As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. The area's average number of high ozone days dropped from 230 days regionally in 2000 to 142 days in the 2017 and continues to decrease the number of days. The region has also seen dramatic reduction in particle pollution from 107 days regionally in 2004 to 14 days in the 2017.

The 2016 AQMP[14] includes the integrated strategies and measures needed to meet the NAAQS. The 2016 AQMP that demonstrates attainment of the 1-hour and 8-hour ozone. Recent Ozone concentration data (2000 through 2019) for 1-hour and 8-hour trends are shown in **Figures C-7 and C-8**. As shown in **Figure C-7**, an 18 percent decrease in the maximum 1-hour ozone trend from 0.1 parts per million (ppm) to 0.082 ppm occurred. **Figure C-8** illustrates an 11 percent decrease in the maximum 8-hour ozone trend that decreased from 0.075ppm to 0.067 ppm.

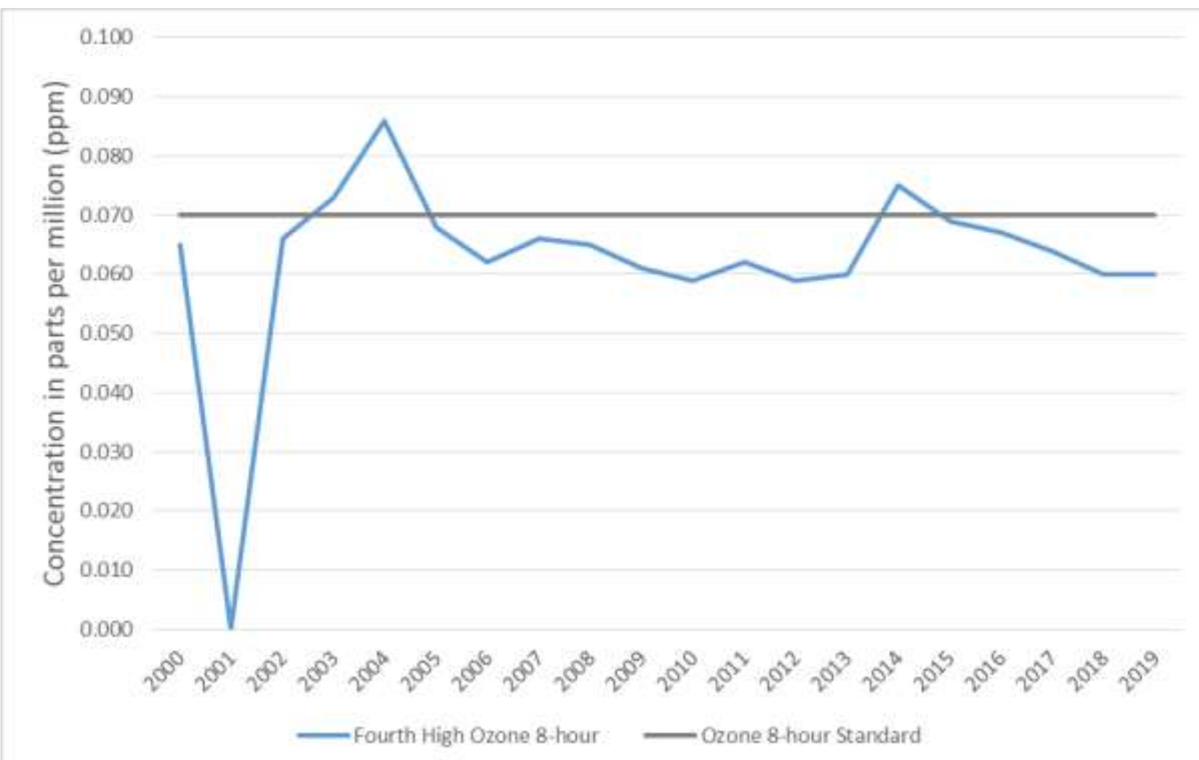
[14] South Coast Air Quality Management District, 2016 Air Quality Management Plan, March 1, 2017, Accessed July 9, 2020 at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan

Figure C-7: Maximum 1-Hour Ozone Concentration (ppm)



Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

Figure C-8: Maximum 8-Hour Ozone Concentration (ppm)

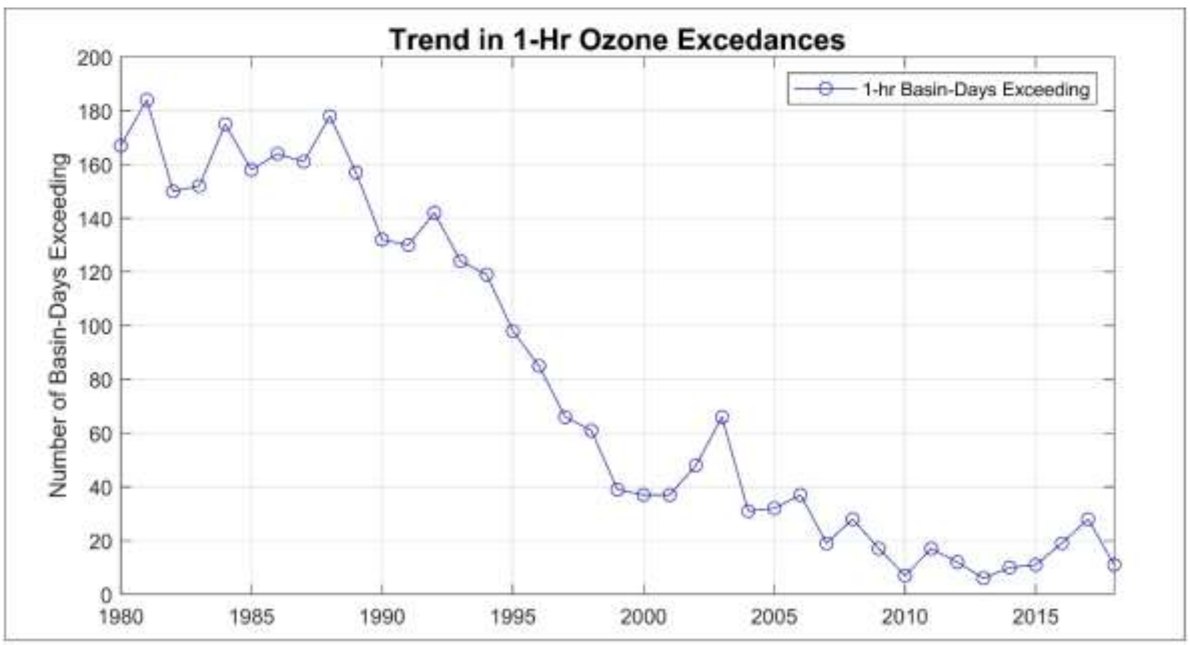


Source: SCAQMD, Historical Data By Year, http://www.aqmd.gov/home/air-quality/historical-air-quality-data/historical-data-by-year

Since 1980, the Basin has experienced a decrease in 1- and 8-hour Ozone exceedances and in 1-hour Ozone advisories. **Figures C-9, C-10 and C-11** show reductions in these historical Ozone air quality trends. As shown in **Figure C-9**, the number of Basin-days exceeding the 1-hour ozone exceedances decreased from 167 days to 11 days (approximately 93 percent). As shown in **Figure C-11**, the number of Basin-days exceeding health standard levels for 8-hour ozone exceedances decreased from 211 days to 141 days (approximately 33 percent). As shown in **Figure C-11**, the number of Basin-days exceeding 1-hour health advisories and 1-hour stage one episodes were both zero for 2018

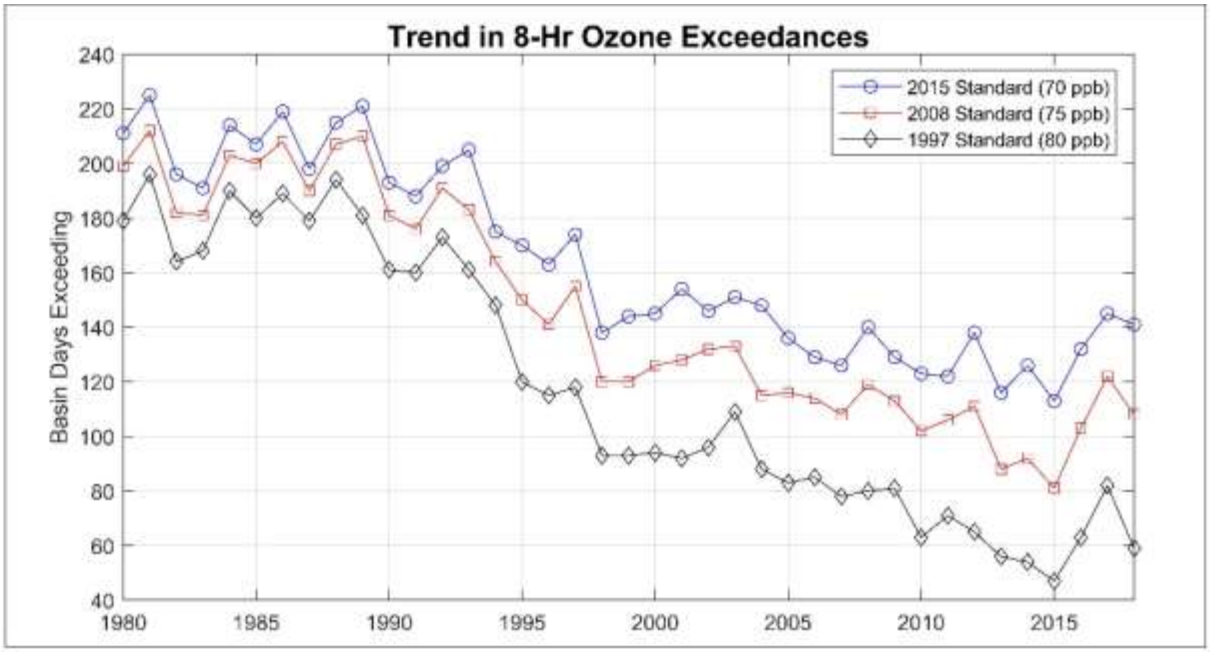
Ozone contour maps show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. Ozone levels in the SCAB have decreased substantially over the last 30 years. Today, the maximum measured concentrations are approximately one-third of concentrations within the late 70's.

Figure C-9: Trend in 1-Hour Ozone Exceedances



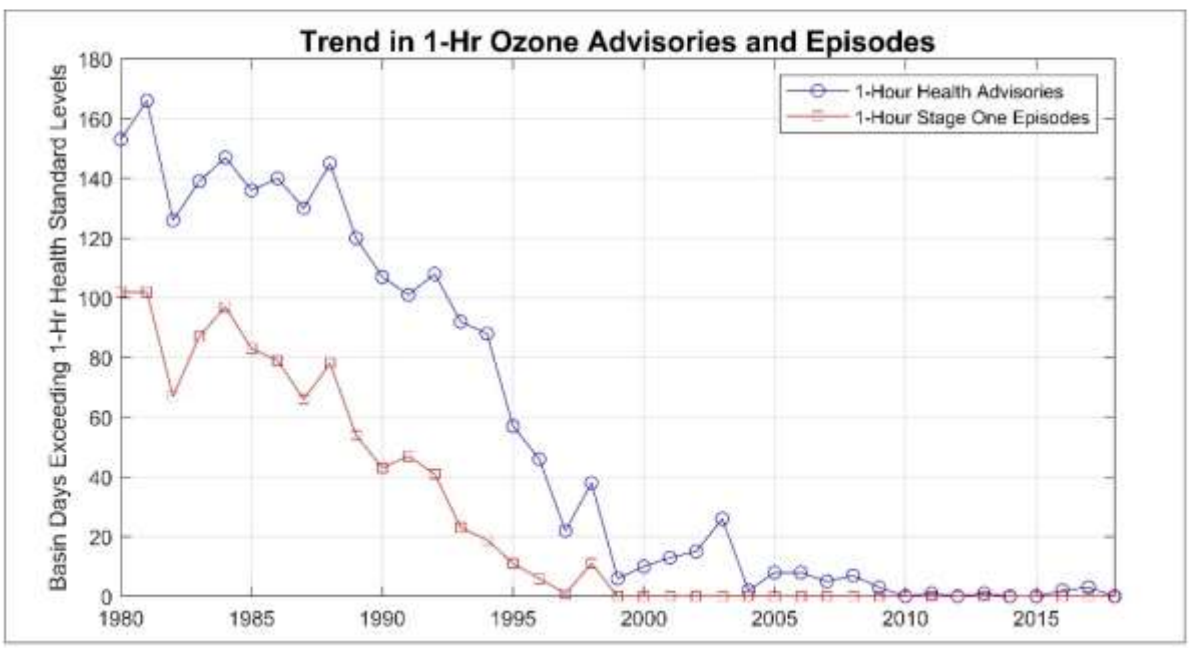
Source: SCAQMD, Historic Ozone Air Quality Trends, https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historic-ozone-air-quality-trends

Figure C-10: Trend in 8-Hour Ozone Exceedances



Source: SCAQMD, Historic Ozone Air Quality Trends, https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historic-ozone-air-quality-trends

Figure C-11: Trend in 1-Hour Ozone Advisories and Episodes



Source: SCAQMD, Historic Ozone Air Quality Trends, https://www.aqmd.gov/home/air-quality/historical-air-quality-data/historic-ozone-air-quality-trends

Toxic Air Contaminants (TAC)

Non-criteria air pollutants or toxic air contaminants (TAC) are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TAC include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TAC includes approximately 200 compounds, including particulate emissions from diesel-fueled engines and asbestos.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines as TAC.[15] The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra-low sulfur diesel fuel on diesel-fueled engines.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solid and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon; heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei particles of diameters below 0.04 μm and their agglomerates of diameters up to 1 μm. DPM is a major factor in total TAC exposure in California.

California State law defines TAC as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TAC under California law; they include the 187 (federal) Hazardous Air Pollutants (HAP) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources but AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures.

In 2001, CARB assessed the state-wide health risks from exposure to diesel exhaust and to other toxic air contaminants. It is difficult to distinguish the health risks of diesel emissions from those of other air toxics, since diesel exhaust contains approximately 40 different TAC. The CARB study detected diesel exhaust by using ambient air carbon soot measurements as a surrogate for diesel emissions. The study reported that the state-wide cancer risk from exposure to diesel exhaust was about 540 per million population as compared to a total risk for exposure

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[15] California Air Resources Board, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*, October 2000, Accessed July 9, 2020 at: http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf

to all ambient air toxics of 760 per million. This estimate, which accounts for about 70 percent of the total risk from TAC, included both urban and rural areas in the state. The estimate can also be considered an average worst-case for the state, since it assumes constant exposure to outdoor concentrations of diesel exhaust and does not account for expected lower concentrations indoors, where most of time is spent. Based on 2012 estimates of statewide exposure, DPM is estimated to increase statewide cancer risk by 520 cancers per million residents exposed over a lifetime.[16]

Exposure to DPM results in a greater incidence of chronic non-cancer health effects, such as cough, labored breathing, chest tightness, wheezing, and bronchitis. Individuals particularly vulnerable to DPM are children, whose lung tissue is still developing, the elderly and people with illnesses who may have other serious health problems that can be aggravated by exposure to DPM. In general, children are more vulnerable than adults to air pollutants because they have higher inhalation rates, narrower airways, and less mature immune systems. In addition, children with allergies may have an enhanced allergic response when exposed to diesel exhaust).

CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* in 2005. The primary goal in developing the *Handbook* was to provide information that would help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The *Handbook* highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

In 2005, the SCAQMD conducted a comprehensive study on air toxics in the SCAB called the Multiple Air Toxics Exposure Study (MATES-III). The monitoring program measured more than 30 air pollutants, including both gas and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. MATES-III found that the average cancer risk in the region from carcinogenic air pollutants ranges from approximately 870 in a million to 1,400 in a million, with an average regional risk of approximately 1,200 in a million.[17]

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[16] California Air Resources Board, *Summary: Diesel Particulate Matter Health Impacts*, April 12, 2016, Accessed July 9, 2020 at: https://www.arb.ca.gov/research/diesel/diesel-health_summ.htm

[17] South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-III) in the South Coast Air Basin, September 2008, Accessed July 9, 2020 at: https://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iii

In 2015, the Multiple Air Toxics Exposure Study IV (MATES IV) is a follow up to previous air toxics studies in the Basin. The MATES IV Study includes an updated emissions inventory of toxic air contaminants and a modeling effort to characterize risk across the SCAB. The study focuses on the carcinogenic risk from exposure to air toxics but does not estimate mortality or other health effects from particulate exposures. An additional focus of MATES IV is the inclusion of measurements of ultrafine particle concentrations. Results for MATES-IV show that trends in monitored levels air toxics continue to decline, modeled exposures and risks were substantially lower compared to MATES III (approximately 60 percent decrease), and DPM remains the largest component of air toxics estimated risk, at approximately 68 percent of the South Coast Air Basin wide cancer risk of 418 per million persons, ranging from 320 to 480 per million persons. Based on data within MATES-IV, the proposed Project is within an area with an estimated cancer risk of 400 to 450 per million persons.[18]

South Coast Air Quality Management District (SCAQMD) Amicus Brief[19]

The proposed Inglewood Transit is in the South Coast Air Basin, under the jurisdiction of the SCAQMD. The following in information from the SCAQMD is included because it is the legal brief on the Friant Ranch decision from the local air district for the proposed Inglewood Transit. The SCAQMD brief describes why it is not feasible to accurately model changes in regional air quality concentrations resulting from specific projects or accurately correlate predicted minor air quality changes with specific health outcomes.

As noted in the SCAQMD brief, SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes. SCAQMD receives as many as 60 or more CEQA documents each month (around 500 per year) in its role as commenting agency or an agency with "jurisdiction by law" over air quality. The SCAQMD staff provides comments on as many as 25 or 30 such documents each month (SCAQMD brief, p. 7). Therefore, the Inglewood Transit EIR air quality analysis appropriately relied on SCAQMD expertise, significance thresholds, and guidance to disclose the proposed Project's air quality impacts.

The SCAQMD brief makes it clear that SCAQMD does not believe that there must be a quantification of a project's health risks in all CEQA documents prepared for individual projects, and in fact, the SCAQMD brief is clear that for individual projects the results of such an assessment would be meaningless. Also, the proposed Project would not generate anywhere

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18 South Coast Air Quality Management District, Multiple Air Toxics Exposure Study (MATES-IV) in the South Coast Air Basin, May 1, 2015, Accessed July 9, 2020 at: http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv

19 South Coast Air Quality Management District Amicus Brief, April 13, 2015, Accessed July 9, 2020 at: https://www.courts.ca.gov/documents/9-s219783-ac-south-coast-air-quality-mgt-dist-041315.pdf

near 6,620 pounds per day of NOx or 89,180 pounds per day of ROG emissions, which SCAQMD stated was a large enough emission to quantify ozone-related health impacts. (SCAQMD brief, page 12) Therefore, the emissions from the proposed Project are not sufficiently high to use a regional modeling program to correlate health effects on a basin-wide level.

The SCAQMD's numeric regional thresholds of significance are based in part on Section 180 (e) of the federal Clean Air Act (CAA). The numeric regional mass daily thresholds have not changed since their adoption as part of the CEQA Air Quality Handbook published by SCAQMD in 1993 (over 20 years ago). The numeric regional mass daily significance thresholds are also intended to provide a means of consistency in significance determination within the environmental review process.

Simply exceeding the SCAQMD's numeric regional mass daily thresholds does not constitute a particular health impact to an individual receptor. The reason for this is that the mass daily thresholds are in pounds per day (pounds/day) emitted into the air whereas health effects are determined based on the concentration of emissions in the air at a particular receptor (e.g., parts per million by volume of air, or micrograms per cubic meter of air) and usually over a longer duration such a one year of an 70-year lifetime. State and federal ambient air quality standards (CAAQS & NAAQS) were developed to protect the most susceptible population groups from adverse health effects and were established in terms of parts per million or micrograms per cubic meter for the applicable emissions.

With regard to the analysis of air quality-related health impacts, the SCAQMD, the air quality authority for the South Coast Air Basin, has stated that "*EIRs must generally quantify a project's pollutant emissions, but in some cases it is not feasible to correlate these emissions to specific, quantifiable health impacts (e.g., premature mortality; hospital admissions)*." In such cases, a general description of the adverse health impacts resulting from the pollutants at issue may be sufficient. (SCAQMD brief, page 1)

The SCAQMD has further stated that from a scientific standpoint,

> "*…it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region. For example, the SCAQMD's 2012 AQMP showed that reducing NOx by 432 tons per day and reducing VOC by 187 tons per day would only reduce ozone levels at the SCAQMD's monitor site with the highest levels by 9 parts per billion.*[20]" (SCAQMD brief, page 11)

[20] South Coast Air Quality Management District, Final 2012 AQMP, February 2013, Accessed July 9, 2020 at: www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-20212-air-quality-management-plan; then follow "Appendix V: Modelling & Attainment Demonstrations" hyperlink, pp. v-4-2, v-7-4, v-7-24

A few comparisons to this SCAQMD brief and the Inglewood Transit are appropriate. The Inglewood Transit calculated maximum unmitigated daily NOx construction emissions are 238 pounds/day or approximately 0.028 percent of the 432 tons per day.

A ratio comparison helps add perspective. Using the 0.028 percent value for the change in ozone levels at the SCAQMD's monitor site with the highest levels would change by (0.00028 x 9 parts per billion) or 0.0025 parts per billion of ozone. The lowest ozone standard is the California 8-hour standard of 0.070 ppm or 70 ppb. So, if there were a direct ratio correlation given the Inglewood Transit daily construction emissions, those emissions would change ozone levels by 0.0025 ppb compared to the most stringent 70 ppb California 8-hour standard or 0.0035 percent (0.0025/70).

The extremely small change in the ozone numbers (0.0035 percent of the standard) from this approximated calculation is an indication of why the SCAQMD does not require relatively small projects to undertake regional modeling. Even if it were a valid ozone change calculation, the correlation to health impacts from the change would be more impossible to determine. SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NOx or VOC precursor emissions from relatively small projects such as the proposed Inglewood Transit. (SCAQMD brief, page 12)

Current scientific, technological, and modeling limitations prevent the relation of expected adverse air quality impacts to likely health consequences. Since SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by NOx or ROG emissions from relatively small projects like the proposed Project, then a general description of the adverse health impacts resulting from the criteria and toxics pollutants (as previously described) is all that can be meaningfully provided at this time.

San Joaquin Valley Air Pollution Control District Amicus Brief[21]

The proposed Friant Specific Plan is in the San Joaquin Valley Air Basin, under the jurisdiction of the SJVAPCD. The SJVAPCD Amicus Brief addresses whether it is scientifically feasible to correlate an individual project's air quality emissions of criteria air pollutants to specific health impacts. Human health impacts associated with criteria air pollutants are analyzed and taken into consideration when the USEPA sets the NAAQS for each criteria pollutant. The health impact of a particular criteria pollutant is analyzed on a regional, not a facility level, based on how close the area is to complying with (attaining) the NAAQS. As discussed in the SJVAPCD brief, it is not feasible to conduct a criteria air pollutant analysis detailing health impacts, as currently available computer modeling tools are not equipped for this task.

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[21] San Joaquin Valley Air Pollution Control District Amicus Brief, April 13, 2015, Accessed July 9, 2020 at: https://www.courts.ca.gov/documents/7-s219783-ac-san-joaquin-valley-unified-air-pollution-control-dist-041315.pdf

In requiring a health risk type analysis for criteria air pollutants, it is important to understand how the relevant criteria pollutants (ozone and particulate matter) are formed, dispersed and regulated. Ground level ozone (smog) is not directly emitted into the air but is instead formed when precursor pollutants such as NOx and ROG are emitted into the atmosphere and undergo complex chemical reactions driven by sunlight. Once formed, ozone can be transported long distances by wind. Because of the complexity of ozone formation, a specific tonnage amount of NOx or ROG emitted in a particular area does not equate to a particular concentration of ozone in that area. In fact, even rural areas that have relatively low tonnages of emissions of NOx or ROG can have high levels of ozone concentrations simply due to wind transport. Conversely, areas that have substantially more NOx and ROG emissions could experience lower concentrations of ozone simply because sea breezes disperse the emissions.[22] Secondary PM, like ozone, is formed via complex chemicals such as SOx and NOx.[23] Because of the complexity of secondary PM formation, the tonnage of PM-forming precursor emissions in an area does not necessarily result in an equivalent concentration of secondary PM in that area.

The disconnect between the tonnage of precursor pollutants and the concentration of ozone or PM formed is important because it is not necessarily the tonnage of precursor pollutants that causes health effects; rather, it is the concentration of resulting ozone or PM that causes these effects. As such, the NAAQS, which are statutorily required to be set by USEPA at levels that are requisite to protect the public health, are established as concentrations of ozone and not as tonnages of their precursor pollutants. Because the NAAQS are focused on achieving a particular concentration region-wide, the SJVAPCD's tools and plans for attaining the NAAQS are regional in nature.

In regard to regional concentrations and air basin attainment, the SJVAPCD emphasized that attempting to identify a change in background pollutant concentrations that can be attributed to a single project, even one as large as the entire Friant Ranch Specific Plan, is a theoretical exercise. The SJVAPCD brief noted that it "*would be extremely difficult to model the impact on NAAQS attainment that the emissions from the Friant Ranch project may have*". The situation is further complicated by the fact that background concentrations of regional pollutants are not uniform either temporally or geographically throughout an air basin but are constantly fluctuating based upon wind speed and direction, precipitation, and topography. The currently available modeling tools are equipped to model the impact of all emission sources in the San Joaquin Valley Air Basin on attainment. The SJVAPCD indicated that, "*Running the photochemical grid model used for predicting O_3 attainment with the emissions solely from the Friant*

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[22] San Joaquin Valley Air Pollution Control District, 2007 Ozone Plan, Accessed July 9, 2020 at: www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_Ozone2007.htm

[23] USEPA, Particulate Matter: Basic Information, Accessed July 9, 2020 at: www.epa.gov/airquality/pariclepollution/basic.html

Ranch project (which equate to less than one-tenth of one percent of the total NOx and VOC [ROG] in the Valley) is not likely to yield valid information given the relative scale involved". (SQVAPCD brief, p. 9-10)

The computer models used to simulate and predict an attainment date for ozone are based on regional inventories of precursor pollutants, atmospheric chemistry and meteorology within the air basin. At a very basic level, the models simulate future ozone levels based on predicted changes in precursor emissions basin wide. The computer models are not designed to determine whether the emissions generated by an individual development project will affect the date that the air basin attains the NAAQS. Instead, the models help inform regional planning strategies based on the extent to which all of the emission-generating sources within the air basin must be controlled in order to reach attainment.

Conclusions

In the case of the Inglewood Transit, construction emissions exceed the SCAQMD's recommended daily significance thresholds for NOx. However, this does not determine the concentration of ozone that will be occur at or near the Project Site or within the region on a particular day or month of the year, or the specific health impacts that may occur as a result of that concentration. Wind speed and direction, and the presence or absence of sunlight, and other complex chemical factors all combine to determine the ultimate concentrations and locations of ozone. This is especially true for a project like the Inglewood Transit, where the criteria pollutant emissions derive not from a single "point source," but from mobile sources driving to, from and around the Project Site.

The air quality analysis for the Inglewood Transit included a site-specific localized impact analysis which found less than significant impacts. The localized impact analysis was focused on the impacts locally on receptors adjacent to the Project site. Models such a USEPA's AERMOD have been used for years to estimate local concentrations for air permitting and environmental planning. However, even these dispersion models are not suited for the chemical transformation related to the formation of ozone due to emissions of NOx and ROG and the interaction with sunlight. Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, atmospheric stability, atmospheric chemistry and wind patterns. Because of the dynamic nature of ozone formation and the complexities of predicting ground-level ozone concentrations in relation to ambient standards, air districts instead develop mass emissions thresholds for ROG and NOx that are used to make significance determinations. Air districts also recommend mitigation measures for projects that exceed the significance thresholds.

On a regional scale, it would not be possible to accurately model the impact on AAQS attainment that emissions from the Inglewood Transit may have. The currently available tools are equipped to model the impact of all emission sources in the air basin on attainment, not to evaluate an individual project. Both the SCAQMD and SJVAPCD have expressed serious concerns that the regional modeling for individual projects, such as the Inglewood Transit project, will not generate meaningful results.

In summary, modeling of the Inglewood Transit Proposed Project's ozone emissions is not feasible and would not provide meaningful information given the magnitude of the emissions and the number of variables that affect ozone formation (e.g., mass of precursor emissions, background concentrations for all other emission sources in the air basin, location of activity and weather on that day that results in conversion of precursor emissions into ozone).

Consistent with the California Supreme Court's Friant Ranch decision, the information and analyses provides additional details regarding the potential health effects from the proposed Inglewood Transit's significant and unavoidable criteria pollutant construction emissions of NOx. It also explains why it is not scientifically feasible to substantively connect this individual Proposed Project's air quality impacts to likely health consequences. The criteria air pollutant emissions of NOx for the proposed Project are too small to model and obtain meaningful regional concentrations of criteria air pollutants and ozone.

Attachment D

TIRCP GHG Benefits Calculator Tool Memo

Date: January 14, 2020

To: City of Inglewood

Cc: Omar Pulido, Senior Project Director, Trifiletti Consulting, Inc
Lisa Trifiletti, Principal, Trifiletti Consulting, Inc

From: Michael Ratte, Senior Air Quality Scientist, RCH Group
Joe Gibson, Partner, Meridian Consultants LLC

Re: Inglewood Transit Connector TIRCP Benefits Calculator Tool Memorandum

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Introduction

The Inglewood Transit Connector Project (proposed Project) will provide a transit connection from the Metro Crenshaw/LAX Line in Downtown Inglewood to the Los Angeles Stadium and Entertainment District area and would be designed to integrate with local economic activity, transit-oriented development, and other initiatives in the area. The Project would consist of an elevated, automated people mover system with dual guideways to allow for continuous trains to travel in each direction.

As part of the City's effort, they are seeking to apply for a TIRCP grant from the CALSTA Transit and Intercity Rail Capital Program. The grant application requires that the City demonstrate the effectiveness of the proposed Project to reduce greenhouse gas (GHG) emissions using the TIRCP Benefits Calculator.

The California Air Resources Board (CARB) developed the TIRCP Benefits Calculator Tool to estimate the GHG emissions and selected co-benefits of eligible grant applications. The Benefits Calculator Tool estimates GHG emissions and air pollutant emission co-benefits using methods described in CARB's Co-Benefit Assessment Methodologies (dated October 19, 2019). Grant Applicants must use this calculator to estimate the GHG emission reductions, air pollutant emissions, and other co-benefits associated with the quantification methodology.

Purpose

This memorandum provides an overview of the technical information associated with the development of the CALSTA TIRCP Benefits Calculator Tool based on provided data related to increased ridership, vehicle miles traveled (VMT) reductions, vehicle trips reductions, and average miles traveled as a result of the Inglewood Transit Connector Project. The benefits were estimated over the project lifetime from 2026 through 2076 or 50 years.

Benefits Calculator Tool Description

The TIRCP Benefits Calculator Tool utilizes motor vehicle emission factors (in grams per mile) to estimate GHG emissions (reported as carbon dioxide or CO_2 in metric tons).[1] The TIRCP Benefits Calculator Tool also reports reactive

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[1] There is international scientific consensus that human-caused increases in GHG have and will continue to contribute to global warming. Potential global warming impacts in California may include, but are not limited to, loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years. Secondary effects

organic compounds (ROG), nitrogen oxides (NO_x), particulates matter equal to or less than 2.5 micrometers ($PM_{2.5}$ or fine particulate), and diesel particulate emissions (in pounds). The emission factors are based on the California Air Resources Board's (CARB) EMFAC2017[2] emissions inventory model. EMFAC2017 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This emission factor model reflects CARB's current understanding of how vehicles travel and how much they emit. EMFAC2017 can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future. Emission factors are based on information associated with Los Angeles County and the City of Inglewood within the South Coast Air Basin.

The TIRCP Benefits Calculator Tool estimates the following co-benefits and key variables:

- GHG (as CO_2) emission reductions (metric tons or MT)
- ROG emission reductions (pounds)
- NOx emission reductions (pounds)
- $PM_{2.5}$ emission reductions (pounds),
- Diesel PM emission reductions (pounds)
- Passenger VMT reductions (miles)
- Passenger travel cost savings ($)
- Energy and fuel cost savings ($)

Notably, projects may claim additional ridership through increased transfers of passengers to adjoining systems and may be reflected in the quantification of GHG benefits if the project also documents the ability of the connected corridor to provide capacity sufficient to accommodate the riders. As such, six transit mode systems (or Quantifiable Components) were included in TIRCP Benefits Calculator Tool: Metrolink, Metro Heavy Rail (HR), Metro Light Rail (LR), Metro Bus Rapid Transit/Rapid Bus (BRT/RB), Metro Municipal Bus (MB), and Inglewood Transit Connector (ITC).

Benefits Calculator Tool Input Data

The TIRCP Benefits Calculator Tool input information includes the following parameters:

- The type of region that best encompasses the geographic location for the proposed project type: Los Angeles County within South Coast Air Basin
- TIRCP Funds Requested ($)/Total amount of TIRCP GGRF funds requested from this solicitation to implement the project: $90 million
- Total Project Cost ($) or Total amount of funding required to implement the project: $1.016 billion
- The first year of service or the first year the facility or rolling stock will be in use: 2026
- The final year of service or the final year the facility or rolling stock's useful life: 2076
- The increase in unlinked passenger trips directly associated with the proposed project in the first year: 6,959,998

are likely to include a global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

2 California Air Resources Board, EMFAC2017 User's Guide, March 1, 2018, https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.pdf and https://www.arb.ca.gov/emfac/2017/

- The increase in unlinked passenger trips directly associated with the proposed project in the final year: 13,906,110
- Discount factor applied to annual ridership to account for transit-dependent riders: 0.720
- Annual passenger miles over unlinked trips directly associated with the proposed project: 6.24 miles

Data was input into the TIRCP Benefits Calculator Tool by transit mode. The TIRCP Benefits Calculator Tool Input and Output are provided at the end of this document.

Results

Table 1 provides the increased ridership, vehicle miles traveled reductions, vehicle trips reductions, and average miles traveled for 2026 and 2076 by transit mode. The vehicle trips reductions are a function of the increased ridership times the adjustment factor. The vehicle miles traveled reductions are a function of the vehicle trips reductions times the average miles traveled.

Table 1: Estimated VMT Reductions by Mode for First Year and Final Year

Year	Parameter	Metrolink	Metro HR	Metro LR	Metro BRT/RB	Metro MB	ITC	Total
2026	VMT Reduction			23,229,237	2,954,199	1,190,852	2,649,387	30,023,675
	Increased Ridership			3,335,781	482,220	226,288	2,915,709	6,959,998
	Vehicle Trip Reduction			2,447,706	330,238	156,013	1,937,720	4,871,677
	Length of Average Trip			9.49	8.95	7.63	1.37	6.16
	Adjustment Factor			0.734	0.685	0.689	0.665	0.700
2076	VMT Reduction	7,497,044	2,942,523	45,011,104	4,923,445	1,891,274	5,169,161	67,434,551
	Increased Ridership	305,991	431,878	6,372,441	814,252	371,676	5,609,872	13,906,110
	Vehicle Trip Reduction	257,339	351,041	4,888,502	574,791	264,952	3,808,777	10,145,402
	Length of Average Trip	29.13	8.38	9.21	8.57	7.14	1.36	6.65
	Adjustment Factor	0.841	0.813	0.767	0.706	0.713	0.679	0.730
Overall	Length of Average Trip	29.13	8.38	9.30	8.70	7.32	1.36	6.24
	Adjustment Factor	0.841	0.813	0.756	0.698	0.704	0.674	0.720

Note: The Green Line Eastern Extension (Norwalk) Project connects Green Line and Metrolink has an expected opening date of 2052. For Metro Heavy Rail, the Crenshaw Line Extension that connects the LAX/Crenshaw Line with Purple Line and Red Line has an expected opening date of 2047. The Sepulveda Pass Transit Corridor Phase III that connects Sepulveda Pass and Green Line at Aviation-96 Street Station has an expected opening date of 2057.
The unlinked trips are two-way (includes the inbound and outbound trips) and the trip lengths are one-way. Therefore, the VMT (unlinked trips x trip length) represent a round trip distance.
Source: Raju Associates, TIRCP Unlinked Trips Tables, January 7, 2020.

Table 2 displays the number of jobs supported by the Inglewood Transit Connector Project. California Climate Investments facilitate GHG emission reductions and deliver a suite of economic, environmental, and public health co-benefits, including job co-benefits. A different mix of spending on materials, equipment, and labor is expected across various California Climate Investments project types and match funding arrangements. As such, some project types will support more jobs than others. The Job Co-Benefits Tool Input and Output are provided at the end of this document.

Table 2: Estimated Job Co-Benefit Results

Parameter	Total
Total Full-Time Equivalent Jobs Supported by the Project Budget	9,759
Total Full-Time Equivalent Jobs Supported by the Project GGRF Funds	878
Full-time Equivalent Jobs Directly Supported by the Project GGRF Funds	413
Full-time Equivalent Jobs Indirectly Supported by the Project GGRF Funds	190
Full-time Equivalent Induced Jobs Supported by the Project GGRF Funds	276

Table 3 displays the CO_2 vehicle emission factors used to determine the GHG emission reductions. The GHG emission reductions (in metric tons) are determined as the VMT reductions times the CO_2 emission factor divided by 453.592 gram/pound divided by 2000 pounds/short ton times 0.907185 metric tons/short ton. The calculation is completed by year and transit mode and summed over the project lifetime.

Table 4 displays the estimated GHG emissions reductions by mode over the project lifetime. The total estimated GHG emissions reductions are 768,922 metric tons of CO_2 which is a function of 2,322,426,448 VMT reductions with an average vehicle emission factor of 332 grams per vehicle mile. Based on TIRCP GGRF funds requested of $90,000,000,[3] this equates to $117 per metric ton of CO_2.

[3] Based on the TICRP GGRF funding contribution only ($90 million), not the full TIRCP grant request amount ($200 million).

Table 3: Estimated CO2 Emission Factors

Year	CO2 Emission Factor (g/mile)
2026	383
2027	373
2028	364
2029	356
2030	349
2031	344
2032	338
2033	333
2034	329
2035	325
2036	322
2037	319
2038	317
2039	315
2040	313
2041	312
2042	311
2043	310
2044	309
2045	308
2046	308
2047	307
2048	307
2049	307
2050	306

Source: California Air Resources Board, EMFAC2017 User's Guide, March 1, 2018, https://ww3.arb.ca.gov/msei/downloads/emfac2017-volume-i-users-guide.pdf and https://www.arb.ca.gov/emfac/2017/ and California Air Resources Board California Climate Investments Quantification Emission factor database (cci_emissionfactordatabase_111419.xls).

Table 4: Estimated GHG Emission Reductions by Mode for Project Lifetime

Parameter	Metrolink	Metro HR	Metro LR	Metro BRT/RB	Metro MB	ITC	Total
Total GHG Emission Reductions ($MTCO_2$)	33,292	11,715	567,221	65,906	25,824	64,965	768,922
Passenger VMT Reductions (miles)	108,707,174	38,252,799	1,706,008,525	196,941,100	77,053,150	195,463,700	2,322,426,448
Fossil Fuel Use Reductions (gallons)	2,712,433	954,474	48,194,707	5,617,165	2,202,509	5,518,828	65,200,116
ROG Emission Reductions (pounds)	587	207	19,764	2,382	941	2,259	26,139
NO_x Emission Reductions (pounds)	4,266	1,501	97,512	11,548	4,544	11,156	130,527
$PM_{2.5}$ Emission Reductions (pounds)	4,395	1,547	70,164	8,111	3,174	8,038	95,430
Diesel PM Emission Reductions (pounds)	5.00	1.76	121	14.4	5.67	13.9	162

Source: RCH Group based on TIRCP Benefits Calculator Tool and Raju Associates, TIRCP Unlinked Trips Tables, January 7, 2020.

Attachment E

Operational Emissions CalEEMod Output Files

Adjusted Baseline

- Annual
- Summer
- Winter

Existing Conditions

- Annual
- Summer
- Winter

MSF Building and APM Stations

- Annual
- Summer
- Winter

ITC Adjusted Baseline

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	466.00	1000sqft	10.70	466,000.00	0
Apartments Mid Rise	314.00	Dwelling Unit	8.26	314,000.00	898
Regional Shopping Center	518.08	1000sqft	11.89	518,080.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 -

Construction Phase - Adjusted Baseline, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	45.00	0.00
tblConstructionPhase	NumDays	500.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	42.70	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	**Start Date**	**End Date**	**Maximum Unmitigated ROG + NOX (tons/quarter)**	**Maximum Mitigated ROG + NOX (tons/quarter)**
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.3736	0.1191	5.2576	5.2600e-003		0.3177	0.3177		0.3177	0.3177	33.3528	69.4065	102.7593	0.1047	2.2600e-003	106.0511
Energy	0.0479	0.4249	0.2884	2.6100e-003		0.0331	0.0331		0.0331	0.0331	0.0000	4,837.3993	4,837.3993	0.1892	0.0460	4,855.8264
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	227.7153	0.0000	227.7153	13.4576	0.0000	564.1549
Water						0.0000	0.0000		0.0000	0.0000	44.9415	896.3168	941.2582	4.6529	0.1167	1,092.3424
Total	**6.4215**	**0.5441**	**5.5460**	**7.8700e-003**	**0.0000**	**0.3508**	**0.3508**	**0.0000**	**0.3508**	**0.3508**	**306.0095**	**5,803.1226**	**6,109.1322**	**18.4044**	**0.1649**	**6,618.3749**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	6.3736	0.1191	5.2576	5.2600e-003		0.3177	0.3177		0.3177	0.3177	33.3528	69.4065	102.7593	0.1047	2.2600e-003	106.0511
Energy	0.0479	0.4249	0.2884	2.6100e-003		0.0331	0.0331		0.0331	0.0331	0.0000	4,837.3993	4,837.3993	0.1892	0.0460	4,855.8264
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	227.7153	0.0000	227.7153	13.4576	0.0000	564.1549
Water						0.0000	0.0000		0.0000	0.0000	44.9415	896.3168	941.2582	4.6529	0.1167	1,092.3424
Total	**6.4215**	**0.5441**	**5.5460**	**7.8700e-003**	**0.0000**	**0.3508**	**0.3508**	**0.0000**	**0.3508**	**0.3508**	**306.0095**	**5,803.1226**	**6,109.1322**	**18.4044**	**0.1649**	**6,618.3749**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	12/31/2014	5	0	
2	Site Preparation	Site Preparation	11/1/2018	10/31/2018	5	0	
3	Grading	Grading	2/18/2021	2/17/2021	5	0	
4	Building Construction	Building Construction	1/28/2027	1/27/2027	5	0	
5	Paving	Paving	6/27/2086	6/26/2086	5	0	
6	Architectural Coating	Architectural Coating	9/14/2090	9/13/2090	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 635,850; Residential Outdoor: 211,950; Non-Residential Indoor: 1,476,120; Non-Residential Outdoor: 492,040; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	195.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 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	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2027

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2027

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	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
General Office Building	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
Regional Shopping Center	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,363.3354	4,363.3354	0.1801	0.0373	4,378.9454
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4,363.3354	4,363.3354	0.1801	0.0373	4,378.9454
NaturalGas Mitigated	0.0479	0.4249	0.2884	2.6100e-003		0.0331	0.0331		0.0331	0.0331	0.0000	474.0639	474.0639	9.0900e-003	8.6900e-003	476.8811
NaturalGas Unmitigated	0.0479	0.4249	0.2884	2.6100e-003		0.0331	0.0331		0.0331	0.0331	0.0000	474.0639	474.0639	9.0900e-003	8.6900e-003	476.8811

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	3.58822e +006	0.0194	0.1653	0.0704	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.4812	191.4812	3.6700e-003	3.5100e-003	192.6191
General Office Building	4.25924e +006	0.0230	0.2088	0.1754	1.2500e-003		0.0159	0.0159		0.0159	0.0159	0.0000	227.2893	227.2893	4.3600e-003	4.1700e-003	228.6399
Regional Shopping Center	1.03616e +006	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2934	55.2934	1.0600e-003	1.0100e-003	55.6220
Total		**0.0479**	**0.4249**	**0.2884**	**2.6100e-003**		**0.0331**	**0.0331**		**0.0331**	**0.0331**	**0.0000**	**474.0639**	**474.0639**	**9.0900e-003**	**8.6900e-003**	**476.8810**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	3.58822e +006	0.0194	0.1653	0.0704	1.0600e-003		0.0134	0.0134		0.0134	0.0134	0.0000	191.4812	191.4812	3.6700e-003	3.5100e-003	192.6191
General Office Building	4.25924e +006	0.0230	0.2088	0.1754	1.2500e-003		0.0159	0.0159		0.0159	0.0159	0.0000	227.2893	227.2893	4.3600e-003	4.1700e-003	228.6399
Regional Shopping Center	1.03616e +006	5.5900e-003	0.0508	0.0427	3.0000e-004		3.8600e-003	3.8600e-003		3.8600e-003	3.8600e-003	0.0000	55.2934	55.2934	1.0600e-003	1.0100e-003	55.6220
Total		**0.0479**	**0.4249**	**0.2884**	**2.6100e-003**		**0.0331**	**0.0331**		**0.0331**	**0.0331**	**0.0000**	**474.0639**	**474.0639**	**9.0900e-003**	**8.6900e-003**	**476.8810**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.24824e+006	397.7173	0.0164	3.4000e-003	399.1402
General Office Building	6.51934e+006	2,077.2014	0.0858	0.0177	2,084.6327
Regional Shopping Center	5.92684e+006	1,888.4167	0.0780	0.0161	1,895.1725
Total		**4,363.3354**	**0.1801**	**0.0373**	**4,378.9454**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.24824e+006	397.7173	0.0164	3.4000e-003	399.1402
General Office Building	6.51934e+006	2,077.2014	0.0858	0.0177	2,084.6327
Regional Shopping Center	5.92684e+006	1,888.4167	0.0780	0.0161	1,895.1725
Total		**4,363.3354**	**0.1801**	**0.0373**	**4,378.9454**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.3736	0.1191	5.2576	5.2600e-003		0.3177	0.3177		0.3177	0.3177	33.3528	69.4065	102.7593	0.1047	2.2600e-003	106.0511
Unmitigated	6.3736	0.1191	5.2576	5.2600e-003		0.3177	0.3177		0.3177	0.3177	33.3528	69.4065	102.7593	0.1047	2.2600e-003	106.0511

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0285	0.0814	1.9961	5.0900e-003		0.2998	0.2998		0.2998	0.2998	33.3528	64.0926	97.4454	0.0995	2.2600e-003	100.6066
Landscaping	0.1001	0.0377	3.2616	1.7000e-004		0.0179	0.0179		0.0179	0.0179	0.0000	5.3139	5.3139	5.2200e-003	0.0000	5.4445
Total	**6.3736**	**0.1191**	**5.2577**	**5.2600e-003**		**0.3177**	**0.3177**		**0.3177**	**0.3177**	**33.3528**	**69.4065**	**102.7593**	**0.1047**	**2.2600e-003**	**106.0511**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5544					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	4.6906					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0285	0.0814	1.9961	5.0900e-003		0.2998	0.2998		0.2998	0.2998	33.3528	64.0926	97.4454	0.0995	2.2600e-003	100.6066
Landscaping	0.1001	0.0377	3.2616	1.7000e-004		0.0179	0.0179		0.0179	0.0179	0.0000	5.3139	5.3139	5.2200e-003	0.0000	5.4445
Total	**6.3736**	**0.1191**	**5.2577**	**5.2600e-003**		**0.3177**	**0.3177**		**0.3177**	**0.3177**	**33.3528**	**69.4065**	**102.7593**	**0.1047**	**2.2600e-003**	**106.0511**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	941.2582	4.6529	0.1167	1,092.3424
Unmitigated	941.2582	4.6529	0.1167	1,092.3424

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	20.4584 / 12.8977	137.0238	0.6720	0.0169	158.8474
General Office Building	82.8239 / 50.7631	549.5889	2.7204	0.0682	637.9216
Regional Shopping Center	38.3755 / 23.5205	254.6456	1.2605	0.0316	295.5735
Total		**941.2582**	**4.6529**	**0.1167**	**1,092.3424**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	20.4584 / 12.8977	137.0238	0.6720	0.0169	158.8474
General Office Building	82.8239 / 50.7631	549.5889	2.7204	0.0682	637.9216
Regional Shopping Center	38.3755 / 23.5205	254.6456	1.2605	0.0316	295.5735
Total		**941.2582**	**4.6529**	**0.1167**	**1,092.3424**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	227.7153	13.4576	0.0000	564.1549
Unmitigated	227.7153	13.4576	0.0000	564.1549

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	144.44	29.3200	1.7328	0.0000	72.6391
General Office Building	433.38	87.9722	5.1990	0.0000	217.9475
Regional Shopping Center	543.98	110.4230	6.5258	0.0000	273.5684
Total		**227.7153**	**13.4576**	**0.0000**	**564.1549**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	144.44	29.3200	1.7328	0.0000	72.6391
General Office Building	433.38	87.9722	5.1990	0.0000	217.9475
Regional Shopping Center	543.98	110.4230	6.5258	0.0000	273.5684
Total		**227.7153**	**13.4576**	**0.0000**	**564.1549**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ITC Adjusted Baseline

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	466.00	1000sqft	10.70	466,000.00	0
Apartments Mid Rise	314.00	Dwelling Unit	8.26	314,000.00	898
Regional Shopping Center	518.08	1000sqft	11.89	518,080.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 -

Construction Phase - Adjusted Baseline, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	45.00	0.00
tblConstructionPhase	NumDays	500.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	42.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	2.5785	0.0000	0.0000	2.3722	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	1.9870	0.0000	0.0000	1.8280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.5794	0.0000	0.0000	0.5445	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.1164	0.0000	0.0000	0.1164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	7.4300e-003	0.0000	0.0000	7.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.5785**	**0.0000**	**0.0000**	**2.3722**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

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	0.0000	0.0000	0.0000	0.0000	0.0000	2.5785	0.0000	0.0000	2.3722	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	1.9870	0.0000	0.0000	1.8280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.5794	0.0000	0.0000	0.5445	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.1164	0.0000	0.0000	0.1164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	7.4300e-003	0.0000	0.0000	7.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.5785**	**0.0000**	**0.0000**	**2.3722**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956
Energy	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.3755	2,863.3755	0.0549	0.0525	2,880.3911
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**112.0823**	**9.1448**	**187.3582**	**0.4231**	**0.0000**	**24.3106**	**24.3106**	**0.0000**	**24.3106**	**24.3106**	**2,941.2124**	**8,562.2363**	**11,503.4487**	**8.8722**	**0.2521**	**11,800.3867**

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956
Energy	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.3755	2,863.3755	0.0549	0.0525	2,880.3911
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**112.0823**	**9.1448**	**187.3582**	**0.4231**	**0.0000**	**24.3106**	**24.3106**	**0.0000**	**24.3106**	**24.3106**	**2,941.2124**	**8,562.2363**	**11,503.4487**	**8.8722**	**0.2521**	**11,800.3867**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	12/31/2014	5	0	
2	Site Preparation	Site Preparation	11/1/2018	10/31/2018	5	0	
3	Grading	Grading	2/18/2021	2/17/2021	5	0	
4	Building Construction	Building Construction	1/28/2027	1/27/2027	5	0	
5	Paving	Paving	6/27/2086	6/26/2086	5	0	
6	Architectural Coating	Architectural Coating	9/14/2090	9/13/2090	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 635,850; Residential Outdoor: 211,950; Non-Residential Indoor: 1,476,120; Non-Residential Outdoor: 492,040; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	195.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2027

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

3.5 Building Construction - 2027

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2027

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	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
General Office Building	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
Regional Shopping Center	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.375 5	2,863.375 5	0.0549	0.0525	2,880.391 1
NaturalGas Unmitigated	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.375 5	2,863.375 5	0.0549	0.0525	2,880.391 1

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	9830.75	0.1060	0.9060	0.3855	5.7800e-003		0.0733	0.0733		0.0733	0.0733		1,156.5584	1,156.5584	0.0222	0.0212	1,163.4313
General Office Building	11669.2	0.1258	1.1440	0.9610	6.8600e-003		0.0870	0.0870		0.0870	0.0870		1,372.8413	1,372.8413	0.0263	0.0252	1,380.9994
Regional Shopping Center	2838.79	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9758	333.9758	6.4000e-003	6.1200e-003	335.9605
Total		**0.2625**	**2.3283**	**1.5803**	**0.0143**		**0.1814**	**0.1814**		**0.1814**	**0.1814**		**2,863.3755**	**2,863.3755**	**0.0549**	**0.0525**	**2,880.3911**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	9.83075	0.1060	0.9060	0.3855	5.7800e-003		0.0733	0.0733		0.0733	0.0733		1,156.5584	1,156.5584	0.0222	0.0212	1,163.4313
General Office Building	11.6692	0.1258	1.1440	0.9610	6.8600e-003		0.0870	0.0870		0.0870	0.0870		1,372.8413	1,372.8413	0.0263	0.0252	1,380.9994
Regional Shopping Center	2.83879	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9758	333.9758	6.4000e-003	6.1200e-003	335.9605
Total		**0.2625**	**2.3283**	**1.5803**	**0.0143**		**0.1814**	**0.1814**		**0.1814**	**0.1814**		**2,863.3755**	**2,863.3755**	**0.0549**	**0.0525**	**2,880.3911**

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956
Unmitigated	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956

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	3.0376					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	82.2793	6.5150	159.6853	0.4074		23.9859	23.9859		23.9859	23.9859	2,941.2124	5,652.0000	8,593.2124	8.7713	0.1996	8,871.9833
Landscaping	0.8010	0.3016	26.0926	1.3800e-003		0.1433	0.1433		0.1433	0.1433		46.8608	46.8608	0.0461		48.0123
Total	**111.8199**	**6.8165**	**185.7779**	**0.4088**		**24.1292**	**24.1292**		**24.1292**	**24.1292**	**2,941.2124**	**5,698.8608**	**8,640.0732**	**8.8173**	**0.1996**	**8,919.9956**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0376					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	82.2793	6.5150	159.6853	0.4074		23.9859	23.9859		23.9859	23.9859	2,941.2124	5,652.0000	8,593.2124	8.7713	0.1996	8,871.9833
Landscaping	0.8010	0.3016	26.0926	1.3800e-003		0.1433	0.1433		0.1433	0.1433		46.8608	46.8608	0.0461		48.0123
Total	**111.8199**	**6.8165**	**185.7779**	**0.4088**		**24.1292**	**24.1292**		**24.1292**	**24.1292**	**2,941.2124**	**5,698.8608**	**8,640.0732**	**8.8173**	**0.1996**	**8,919.9956**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ITC Adjusted Baseline

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	466.00	1000sqft	10.70	466,000.00	0
Apartments Mid Rise	314.00	Dwelling Unit	8.26	314,000.00	898
Regional Shopping Center	518.08	1000sqft	11.89	518,080.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 -

Construction Phase - Adjusted Baseline, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	45.00	0.00
tblConstructionPhase	NumDays	500.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblConstructionPhase	NumDays	35.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00
tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	ST_TR	6.39	0.00
tblVehicleTrips	ST_TR	2.46	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	SU_TR	5.86	0.00
tblVehicleTrips	SU_TR	1.05	0.00
tblVehicleTrips	SU_TR	25.24	0.00
tblVehicleTrips	WD_TR	6.65	0.00
tblVehicleTrips	WD_TR	11.03	0.00
tblVehicleTrips	WD_TR	42.70	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	0.0000	0.0000	0.0000	0.0000	0.0000	2.5785	0.0000	0.0000	2.3722	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	1.9870	0.0000	0.0000	1.8280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.5799	0.0000	0.0000	0.5449	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.1164	0.0000	0.0000	0.1164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	7.4300e-003	0.0000	0.0000	7.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.5785**	**0.0000**	**0.0000**	**2.3722**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

2.1 Overall Construction (Maximum Daily Emission)

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	0.0000	0.0000	0.0000	0.0000	0.0000	2.5785	0.0000	0.0000	2.3722	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2021	0.0000	0.0000	0.0000	0.0000	0.0000	1.9870	0.0000	0.0000	1.8280	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2027	0.0000	0.0000	0.0000	0.0000	0.0000	0.5799	0.0000	0.0000	0.5449	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2086	0.0000	0.0000	0.0000	0.0000	0.0000	0.1164	0.0000	0.0000	0.1164	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2090	0.0000	0.0000	0.0000	0.0000	0.0000	7.4300e-003	0.0000	0.0000	7.4300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**2.5785**	**0.0000**	**0.0000**	**2.3722**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956
Energy	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.3755	2,863.3755	0.0549	0.0525	2,880.3911
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**112.0823**	**9.1448**	**187.3582**	**0.4231**	**0.0000**	**24.3106**	**24.3106**	**0.0000**	**24.3106**	**24.3106**	**2,941.2124**	**8,562.2363**	**11,503.4487**	**8.8722**	**0.2521**	**11,800.3867**

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.2124	5,698.8608	8,640.0732	8.8173	0.1996	8,919.9956
Energy	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.3755	2,863.3755	0.0549	0.0525	2,880.3911
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**112.0823**	**9.1448**	**187.3582**	**0.4231**	**0.0000**	**24.3106**	**24.3106**	**0.0000**	**24.3106**	**24.3106**	**2,941.2124**	**8,562.2363**	**11,503.4487**	**8.8722**	**0.2521**	**11,800.3867**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	12/31/2014	5	0	
2	Site Preparation	Site Preparation	11/1/2018	10/31/2018	5	0	
3	Grading	Grading	2/18/2021	2/17/2021	5	0	
4	Building Construction	Building Construction	1/28/2027	1/27/2027	5	0	
5	Paving	Paving	6/27/2086	6/26/2086	5	0	
6	Architectural Coating	Architectural Coating	9/14/2090	9/13/2090	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 635,850; Residential Outdoor: 211,950; Non-Residential Indoor: 1,476,120; Non-Residential Outdoor: 492,040; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	541.00	195.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	108.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2018

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2027

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

3.5 Building Construction - 2027

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2027

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2086

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2090

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	0.00	0.00	0.00		
General Office Building	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	0.00	0.00	0.00	0.00	0.00	0.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	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
General Office Building	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
Regional Shopping Center	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.375 5	2,863.375 5	0.0549	0.0525	2,880.391 1
NaturalGas Unmitigated	0.2625	2.3283	1.5803	0.0143		0.1814	0.1814		0.1814	0.1814		2,863.375 5	2,863.375 5	0.0549	0.0525	2,880.391 1

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	9830.75	0.1060	0.9060	0.3855	5.7800e-003		0.0733	0.0733		0.0733	0.0733		1,156.5584	1,156.5584	0.0222	0.0212	1,163.4313
General Office Building	11669.2	0.1258	1.1440	0.9610	6.8600e-003		0.0870	0.0870		0.0870	0.0870		1,372.8413	1,372.8413	0.0263	0.0252	1,380.9994
Regional Shopping Center	2838.79	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9758	333.9758	6.4000e-003	6.1200e-003	335.9605
Total		**0.2625**	**2.3283**	**1.5803**	**0.0143**		**0.1814**	**0.1814**		**0.1814**	**0.1814**		**2,863.3755**	**2,863.3755**	**0.0549**	**0.0525**	**2,880.3911**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	9.83075	0.1060	0.9060	0.3855	5.7800e-003		0.0733	0.0733		0.0733	0.0733		1,156.5584	1,156.5584	0.0222	0.0212	1,163.4313
General Office Building	11.6692	0.1258	1.1440	0.9610	6.8600e-003		0.0870	0.0870		0.0870	0.0870		1,372.8413	1,372.8413	0.0263	0.0252	1,380.9994
Regional Shopping Center	2.83879	0.0306	0.2783	0.2338	1.6700e-003		0.0212	0.0212		0.0212	0.0212		333.9758	333.9758	6.4000e-003	6.1200e-003	335.9605
Total		**0.2625**	**2.3283**	**1.5803**	**0.0143**		**0.1814**	**0.1814**		**0.1814**	**0.1814**		**2,863.3755**	**2,863.3755**	**0.0549**	**0.0525**	**2,880.3911**

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	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.212 4	5,698.860 8	8,640.073 2	8.8173	0.1996	8,919.995 6
Unmitigated	111.8199	6.8165	185.7779	0.4088		24.1292	24.1292		24.1292	24.1292	2,941.212 4	5,698.860 8	8,640.073 2	8.8173	0.1996	8,919.995 6

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	3.0376					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	82.2793	6.5150	159.6853	0.4074		23.9859	23.9859		23.9859	23.9859	2,941.2124	5,652.0000	8,593.2124	8.7713	0.1996	8,871.9833
Landscaping	0.8010	0.3016	26.0926	1.3800e-003		0.1433	0.1433		0.1433	0.1433		46.8608	46.8608	0.0461		48.0123
Total	**111.8199**	**6.8165**	**185.7779**	**0.4088**		**24.1292**	**24.1292**		**24.1292**	**24.1292**	**2,941.2124**	**5,698.8608**	**8,640.0732**	**8.8173**	**0.1996**	**8,919.9956**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	3.0376					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	25.7020					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	82.2793	6.5150	159.6853	0.4074		23.9859	23.9859		23.9859	23.9859	2,941.2124	5,652.0000	8,593.2124	8.7713	0.1996	8,871.9833
Landscaping	0.8010	0.3016	26.0926	1.3800e-003		0.1433	0.1433		0.1433	0.1433		46.8608	46.8608	0.0461		48.0123
Total	**111.8199**	**6.8165**	**185.7779**	**0.4088**		**24.1292**	**24.1292**		**24.1292**	**24.1292**	**2,941.2124**	**5,698.8608**	**8,640.0732**	**8.8173**	**0.1996**	**8,919.9956**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ITC Existing Uses

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	1.20	1000sqft	0.03	1,200.00	0
High Turnover (Sit Down Restaurant)	4.76	1000sqft	0.11	4,760.00	0
High Turnover (Sit Down Restaurant)	4.61	1000sqft	0.11	4,610.00	0
Automobile Care Center	44.00	1000sqft	1.01	44,000.00	0
Free-Standing Discount Store	22.19	1000sqft	0.51	22,190.00	0
Free-Standing Discount Store	5.00	1000sqft	0.11	5,000.00	0
Free-Standing Discount Store	16.57	1000sqft	0.38	16,570.00	0
Gasoline/Service Station	6.00	Pump	0.02	202.00	0
Regional Shopping Center	12.30	1000sqft	0.28	12,300.00	0
Regional Shopping Center	25.50	1000sqft	0.59	25,500.00	0
Regional Shopping Center	7.35	1000sqft	0.17	7,350.00	0
Supermarket	76.40	1000sqft	1.75	76,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 - '

Construction Phase - Existing Uses, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	10.00
tblLandUse	LandUseSquareFeet	847.05	202.00
tblSolidWaste	SolidWasteGenerationRate	188.20	188.24
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	71.07	0.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	177.59	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	56.36	0.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	25.24	0.00

tblVehicleTrips	SU_TR	166.44	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	57.24	0.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	102.24	0.00
tblWater	IndoorWaterUseRate	3,241,413.54	3,242,154.27
tblWater	OutdoorWaterUseRate	1,986,672.81	1,987,126.81

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8979	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003
Energy	0.0292	0.2653	0.2229	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	1,794.900 3	1,794.900 3	0.0677	0.0182	1,802.004 7
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	195.6102	0.0000	195.6102	11.5602	0.0000	484.6160
Water						0.0000	0.0000		0.0000	0.0000	7.4338	122.4136	129.8474	0.7686	0.0191	154.7460
Total	**0.9270**	**0.2654**	**0.2258**	**1.5900e-003**	**0.0000**	**0.0202**	**0.0202**	**0.0000**	**0.0202**	**0.0202**	**203.0441**	**1,917.319 5**	**2,120.363 5**	**12.3965**	**0.0372**	**2,441.372 7**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.8979	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003
Energy	0.0292	0.2653	0.2229	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	1,794.9003	1,794.9003	0.0677	0.0182	1,802.0047
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	195.6102	0.0000	195.6102	11.5602	0.0000	484.6160
Water						0.0000	0.0000		0.0000	0.0000	7.4338	122.4136	129.8474	0.7686	0.0191	154.7460
Total	**0.9270**	**0.2654**	**0.2258**	**1.5900e-003**	**0.0000**	**0.0202**	**0.0202**	**0.0000**	**0.0202**	**0.0202**	**203.0441**	**1,917.3195**	**2,120.3635**	**12.3965**	**0.0372**	**2,441.3727**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/29/2019	1/28/2019	5	0	
3	Grading	Grading	2/12/2019	2/11/2019	5	0	
4	Building Construction	Building Construction	3/12/2019	3/11/2019	5	0	
5	Paving	Paving	1/28/2020	1/27/2020	5	0	
6	Architectural Coating	Architectural Coating	2/25/2020	2/24/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 331,104; Non-Residential Outdoor: 110,368; Striped Parking Area: 0 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	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	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 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	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 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	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2019

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	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
Free-Standing Discount Store	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
Gasoline/Service Station	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
High Turnover (Sit Down Restaurant)	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
Regional Shopping Center	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
Supermarket	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,506.0594	1,506.0594	0.0622	0.0129	1,511.4474
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	1,506.0594	1,506.0594	0.0622	0.0129	1,511.4474
NaturalGas Mitigated	0.0292	0.2653	0.2229	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	288.8409	288.8409	5.5400e-003	5.3000e-003	290.5574
NaturalGas Unmitigated	0.0292	0.2653	0.2229	1.5900e-003		0.0202	0.0202		0.0202	0.0202	0.0000	288.8409	288.8409	5.5400e-003	5.3000e-003	290.5574

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	919600	4.9600e-003	0.0451	0.0379	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003	0.0000	49.0734	49.0734	9.4000e-004	9.0000e-004	49.3650
Free-Standing Discount Store	10000	5.0000e-005	4.9000e-004	4.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5336	0.5336	1.0000e-005	1.0000e-005	0.5368
Free-Standing Discount Store	33140	1.8000e-004	1.6200e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7685	1.7685	3.0000e-005	3.0000e-005	1.7790
Free-Standing Discount Store	44380	2.4000e-004	2.1800e-003	1.8300e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.3683	2.3683	5.0000e-005	4.0000e-005	2.3824
Gasoline/Service Station	4221.8	2.0000e-005	2.1000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2253	0.2253	0.0000	0.0000	0.2266
High Turnover (Sit Down Restaurant)	1.19547e+006	6.4500e-003	0.0586	0.0492	3.5000e-004		4.4500e-003	4.4500e-003		4.4500e-003	4.4500e-003	0.0000	63.7946	63.7946	1.2200e-003	1.1700e-003	64.1737
High Turnover (Sit Down Restaurant)	1.23436e+006	6.6600e-003	0.0605	0.0508	3.6000e-004		4.6000e-003	4.6000e-003		4.6000e-003	4.6000e-003	0.0000	65.8703	65.8703	1.2600e-003	1.2100e-003	66.2618
High Turnover (Sit Down Restaurant)	311184	1.6800e-003	0.0153	0.0128	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	16.6060	16.6060	3.2000e-004	3.0000e-004	16.7046
Regional Shopping Center	14700	8.0000e-005	7.2000e-004	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7845	0.7845	2.0000e-005	1.0000e-005	0.7891
Regional Shopping Center	24600	1.3000e-004	1.2100e-003	1.0100e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3128	1.3128	3.0000e-005	2.0000e-005	1.3206
Regional Shopping Center	51000	2.8000e-004	2.5000e-003	2.1000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7216	2.7216	5.0000e-005	5.0000e-005	2.7377
Supermarket	1.57002e+006	8.4700e-003	0.0770	0.0647	4.6000e-004		5.8500e-003	5.8500e-003		5.8500e-003	5.8500e-003	0.0000	83.7823	83.7823	1.6100e-003	1.5400e-003	84.2801
Total		**0.0292**	**0.2653**	**0.2229**	**1.5700e-003**		**0.0202**	**0.0202**		**0.0202**	**0.0202**	**0.0000**	**288.8409**	**288.8409**	**5.5400e-003**	**5.2800e-003**	**290.5574**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Automobile Care Center	919600	4.9600e-003	0.0451	0.0379	2.7000e-004		3.4300e-003	3.4300e-003		3.4300e-003	3.4300e-003	0.0000	49.0734	49.0734	9.4000e-004	9.0000e-004	49.3650
Free-Standing Discount Store	10000	5.0000e-005	4.9000e-004	4.1000e-004	0.0000		4.0000e-005	4.0000e-005		4.0000e-005	4.0000e-005	0.0000	0.5336	0.5336	1.0000e-005	1.0000e-005	0.5368
Free-Standing Discount Store	33140	1.8000e-004	1.6200e-003	1.3600e-003	1.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	1.7685	1.7685	3.0000e-005	3.0000e-005	1.7790
Free-Standing Discount Store	44380	2.4000e-004	2.1800e-003	1.8300e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.3683	2.3683	5.0000e-005	4.0000e-005	2.3824
Gasoline/Service Station	4221.8	2.0000e-005	2.1000e-004	1.7000e-004	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2253	0.2253	0.0000	0.0000	0.2266
High Turnover (Sit Down Restaurant)	1.19547e+006	6.4500e-003	0.0586	0.0492	3.5000e-004		4.4500e-003	4.4500e-003		4.4500e-003	4.4500e-003	0.0000	63.7946	63.7946	1.2200e-003	1.1700e-003	64.1737
High Turnover (Sit Down Restaurant)	1.23436e+006	6.6600e-003	0.0605	0.0508	3.6000e-004		4.6000e-003	4.6000e-003		4.6000e-003	4.6000e-003	0.0000	65.8703	65.8703	1.2600e-003	1.2100e-003	66.2618
High Turnover (Sit Down Restaurant)	311184	1.6800e-003	0.0153	0.0128	9.0000e-005		1.1600e-003	1.1600e-003		1.1600e-003	1.1600e-003	0.0000	16.6060	16.6060	3.2000e-004	3.0000e-004	16.7046
Regional Shopping Center	14700	8.0000e-005	7.2000e-004	6.1000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7845	0.7845	2.0000e-005	1.0000e-005	0.7891
Regional Shopping Center	24600	1.3000e-004	1.2100e-003	1.0100e-003	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005	0.0000	1.3128	1.3128	3.0000e-005	2.0000e-005	1.3206
Regional Shopping Center	51000	2.8000e-004	2.5000e-003	2.1000e-003	1.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7216	2.7216	5.0000e-005	5.0000e-005	2.7377
Supermarket	1.57002e+006	8.4700e-003	0.0770	0.0647	4.6000e-004		5.8500e-003	5.8500e-003		5.8500e-003	5.8500e-003	0.0000	83.7823	83.7823	1.6100e-003	1.5400e-003	84.2801
Total		**0.0292**	**0.2653**	**0.2229**	**1.5700e-003**		**0.0202**	**0.0202**		**0.0202**	**0.0202**	**0.0000**	**288.8409**	**288.8409**	**5.5400e-003**	**5.2800e-003**	**290.5574**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	371800	118.4635	4.8900e-003	1.0100e-003	118.8873
Free-Standing Discount Store	189561	60.3981	2.4900e-003	5.2000e-004	60.6142
Free-Standing Discount Store	253854	80.8832	3.3400e-003	6.9000e-004	81.1726
Free-Standing Discount Store	57200	18.2252	7.5000e-004	1.6000e-004	18.2904
Gasoline/Service Station	1706.9	0.5439	2.0000e-005	0.0000	0.5458
High Turnover (Sit Down Restaurant)	168173	53.5835	2.2100e-003	4.6000e-004	53.7752
High Turnover (Sit Down Restaurant)	173645	55.3270	2.2800e-003	4.7000e-004	55.5249
High Turnover (Sit Down Restaurant)	43776	13.9480	5.8000e-004	1.2000e-004	13.9979
Regional Shopping Center	140712	44.8339	1.8500e-003	3.8000e-004	44.9943
Regional Shopping Center	291720	92.9482	3.8400e-003	7.9000e-004	93.2808
Regional Shopping Center	84084	26.7910	1.1100e-003	2.3000e-004	26.8868
Supermarket	2.95057e+006	940.1142	0.0388	8.0300e-003	943.4775
Total		**1,506.0594**	**0.0622**	**0.0129**	**1,511.4474**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Automobile Care Center	371800	118.4635	4.8900e-003	1.0100e-003	118.8873
Free-Standing Discount Store	189561	60.3981	2.4900e-003	5.2000e-004	60.6142
Free-Standing Discount Store	253854	80.8832	3.3400e-003	6.9000e-004	81.1726
Free-Standing Discount Store	57200	18.2252	7.5000e-004	1.6000e-004	18.2904
Gasoline/Service Station	1706.9	0.5439	2.0000e-005	0.0000	0.5458
High Turnover (Sit Down Restaurant)	168173	53.5835	2.2100e-003	4.6000e-004	53.7752
High Turnover (Sit Down Restaurant)	173645	55.3270	2.2800e-003	4.7000e-004	55.5249
High Turnover (Sit Down Restaurant)	43776	13.9480	5.8000e-004	1.2000e-004	13.9979
Regional Shopping Center	140712	44.8339	1.8500e-003	3.8000e-004	44.9943
Regional Shopping Center	291720	92.9482	3.8400e-003	7.9000e-004	93.2808
Regional Shopping Center	84084	26.7910	1.1100e-003	2.3000e-004	26.8868
Supermarket	2.95057e+006	940.1142	0.0388	8.0300e-003	943.4775
Total		**1,506.0594**	**0.0622**	**0.0129**	**1,511.4474**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8979	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003
Unmitigated	0.8979	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1023					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003
Total	**0.8979**	**3.0000e-005**	**2.9000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.6100e-003**	**5.6100e-003**	**2.0000e-005**	**0.0000**	**5.9800e-003**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1023					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.7953					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.7000e-004	3.0000e-005	2.9000e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	5.6100e-003	5.6100e-003	2.0000e-005	0.0000	5.9800e-003
Total	**0.8979**	**3.0000e-005**	**2.9000e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**5.6100e-003**	**5.6100e-003**	**2.0000e-005**	**0.0000**	**5.9800e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	129.8474	0.7686	0.0191	154.7460
Unmitigated	129.8474	0.7686	0.0191	154.7460

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	4.13957 / 2.53716	27.4687	0.1360	3.4100e-003	31.8835
Free-Standing Discount Store	3.24215 / 1.98713	21.5137	0.1065	2.6700e-003	24.9715
Gasoline/Service Station	0.0796913 / 0.0488431	0.5288	2.6200e-003	7.0000e-005	0.6138
High Turnover (Sit Down Restaurant)	3.20835 / 0.204788	15.0535	0.1051	2.5900e-003	18.4529
Regional Shopping Center	3.34437 / 2.04978	22.1920	0.1099	2.7500e-003	25.7588
Supermarket	9.41769 / 0.291269	43.0907	0.3085	7.5900e-003	53.0654
Total		**129.8474**	**0.7686**	**0.0191**	**154.7460**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Automobile Care Center	4.13957 / 2.53716	27.4687	0.1360	3.4100e-003	31.8835
Free-Standing Discount Store	3.24215 / 1.98713	21.5137	0.1065	2.6700e-003	24.9715
Gasoline/Service Station	0.0796913 / 0.0488431	0.5288	2.6200e-003	7.0000e-005	0.6138
High Turnover (Sit Down Restaurant)	3.20835 / 0.204788	15.0535	0.1051	2.5900e-003	18.4529
Regional Shopping Center	3.34437 / 2.04978	22.1920	0.1099	2.7500e-003	25.7588
Supermarket	9.41769 / 0.291269	43.0907	0.3085	7.5900e-003	53.0654
Total		**129.8474**	**0.7686**	**0.0191**	**154.7460**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	195.6102	11.5602	0.0000	484.6160
Unmitigated	195.6102	11.5602	0.0000	484.6160

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	168.08	34.1187	2.0164	0.0000	84.5277
Free-Standing Discount Store	188.24	38.2110	2.2582	0.0000	94.6662
Gasoline/Service Station	3.23	0.6557	0.0388	0.0000	1.6244
High Turnover (Sit Down Restaurant)	125.78	25.5322	1.5089	0.0000	63.2550
Regional Shopping Center	47.41	9.6238	0.5688	0.0000	23.8426
Supermarket	430.9	87.4688	5.1693	0.0000	216.7003
Total		**195.6102**	**11.5602**	**0.0000**	**484.6160**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Automobile Care Center	168.08	34.1187	2.0164	0.0000	84.5277
Free-Standing Discount Store	188.24	38.2110	2.2582	0.0000	94.6662
Gasoline/Service Station	3.23	0.6557	0.0388	0.0000	1.6244
High Turnover (Sit Down Restaurant)	125.78	25.5322	1.5089	0.0000	63.2550
Regional Shopping Center	47.41	9.6238	0.5688	0.0000	23.8426
Supermarket	430.9	87.4688	5.1693	0.0000	216.7003
Total		**195.6102**	**11.5602**	**0.0000**	**484.6160**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ITC Existing Uses

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	1.20	1000sqft	0.03	1,200.00	0
High Turnover (Sit Down Restaurant)	4.76	1000sqft	0.11	4,760.00	0
High Turnover (Sit Down Restaurant)	4.61	1000sqft	0.11	4,610.00	0
Automobile Care Center	44.00	1000sqft	1.01	44,000.00	0
Free-Standing Discount Store	22.19	1000sqft	0.51	22,190.00	0
Free-Standing Discount Store	5.00	1000sqft	0.11	5,000.00	0
Free-Standing Discount Store	16.57	1000sqft	0.38	16,570.00	0
Gasoline/Service Station	6.00	Pump	0.02	202.00	0
Regional Shopping Center	12.30	1000sqft	0.28	12,300.00	0
Regional Shopping Center	25.50	1000sqft	0.59	25,500.00	0
Regional Shopping Center	7.35	1000sqft	0.17	7,350.00	0
Supermarket	76.40	1000sqft	1.75	76,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 - '

Construction Phase - Existing Uses, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	10.00
tblLandUse	LandUseSquareFeet	847.05	202.00
tblSolidWaste	SolidWasteGenerationRate	188.20	188.24
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	71.07	0.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	177.59	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	56.36	0.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	25.24	0.00

tblVehicleTrips	SU_TR	166.44	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	57.24	0.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	102.24	0.00
tblWater	IndoorWaterUseRate	3,241,413.54	3,242,154.27
tblWater	OutdoorWaterUseRate	1,986,672.81	1,987,126.81

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	5.1142	0.0000	0.0000	4.7321	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.8662	0.0000	0.0000	0.8058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.1142**	**0.0000**	**0.0000**	**4.7321**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	5.1142	0.0000	0.0000	4.7321	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.8662	0.0000	0.0000	0.8058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.1142**	**0.0000**	**0.0000**	**4.7321**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Energy	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.0803**	**1.4541**	**1.2444**	**8.7200e-003**	**0.0000**	**0.1106**	**0.1106**	**0.0000**	**0.1106**	**0.1106**		**1,744.6664**	**1,744.6664**	**0.0336**	**0.0320**	**1,755.0371**

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	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Energy	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.0803**	**1.4541**	**1.2444**	**8.7200e-003**	**0.0000**	**0.1106**	**0.1106**	**0.0000**	**0.1106**	**0.1106**		**1,744.6664**	**1,744.6664**	**0.0336**	**0.0320**	**1,755.0371**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/29/2019	1/28/2019	5	0	
3	Grading	Grading	2/12/2019	2/11/2019	5	0	
4	Building Construction	Building Construction	3/12/2019	3/11/2019	5	0	
5	Paving	Paving	1/28/2020	1/27/2020	5	0	
6	Architectural Coating	Architectural Coating	2/25/2020	2/24/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 331,104; Non-Residential Outdoor: 110,368; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	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	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	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
Free-Standing Discount Store	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
Gasoline/Service Station	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
High Turnover (Sit Down Restaurant)	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
Regional Shopping Center	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
Supermarket	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

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
NaturalGas Mitigated	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
NaturalGas Unmitigated	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844

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					
Automobile Care Center	2519.45	0.0272	0.2470	0.2075	1.4800e-003		0.0188	0.0188		0.0188	0.0188		296.4061	296.4061	5.6800e-003	5.4300e-003	298.1675
Free-Standing Discount Store	121.589	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		14.3046	14.3046	2.7000e-004	2.6000e-004	14.3896
Free-Standing Discount Store	27.3973	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2232	3.2232	6.0000e-005	6.0000e-005	3.2424
Free-Standing Discount Store	90.7945	9.8000e-004	8.9000e-003	7.4800e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004		10.6817	10.6817	2.0000e-004	2.0000e-004	10.7452
Gasoline/Service Station	11.5666	1.2000e-004	1.1300e-003	9.5000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3608	1.3608	3.0000e-005	2.0000e-005	1.3689
High Turnover (Sit Down Restaurant)	3275.25	0.0353	0.3211	0.2697	1.9300e-003		0.0244	0.0244		0.0244	0.0244		385.3232	385.3232	7.3900e-003	7.0600e-003	387.6130
High Turnover (Sit Down Restaurant)	3381.82	0.0365	0.3316	0.2785	1.9900e-003		0.0252	0.0252		0.0252	0.0252		397.8608	397.8608	7.6300e-003	7.2900e-003	400.2251
High Turnover (Sit Down Restaurant)	852.559	9.1900e-003	0.0836	0.0702	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.3011	100.3011	1.9200e-003	1.8400e-003	100.8971
Regional Shopping Center	139.726	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003		16.4384	16.4384	3.2000e-004	3.0000e-004	16.5360
Regional Shopping Center	40.274	4.3000e-004	3.9500e-003	3.3200e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7381	4.7381	9.0000e-005	9.0000e-005	4.7663
Regional Shopping Center	67.3973	7.3000e-004	6.6100e-003	5.5500e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004		7.9291	7.9291	1.5000e-004	1.5000e-004	7.9762
Supermarket	4301.42	0.0464	0.4217	0.3542	2.5300e-003		0.0321	0.0321		0.0321	0.0321		506.0500	506.0500	9.7000e-003	9.2800e-003	509.0572
Total		**0.1599**	**1.4539**	**1.2212**	**8.7200e-003**		**0.1105**	**0.1105**		**0.1105**	**0.1105**		**1,744.6170**	**1,744.6170**	**0.0334**	**0.0320**	**1,754.9844**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	2.51945	0.0272	0.2470	0.2075	1.4800e-003		0.0188	0.0188		0.0188	0.0188		296.4061	296.4061	5.6800e-003	5.4300e-003	298.1675
Free-Standing Discount Store	0.0907945	9.8000e-004	8.9000e-003	7.4800e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004		10.6817	10.6817	2.0000e-004	2.0000e-004	10.7452
Free-Standing Discount Store	0.121589	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		14.3046	14.3046	2.7000e-004	2.6000e-004	14.3896
Free-Standing Discount Store	0.0273973	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2232	3.2232	6.0000e-005	6.0000e-005	3.2424
Gasoline/Service Station	0.0115666	1.2000e-004	1.1300e-003	9.5000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3608	1.3608	3.0000e-005	2.0000e-005	1.3689
High Turnover (Sit Down Restaurant)	0.852559	9.1900e-003	0.0836	0.0702	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.3011	100.3011	1.9200e-003	1.8400e-003	100.8971
High Turnover (Sit Down Restaurant)	3.27525	0.0353	0.3211	0.2697	1.9300e-003		0.0244	0.0244		0.0244	0.0244		385.3232	385.3232	7.3900e-003	7.0600e-003	387.6130
High Turnover (Sit Down Restaurant)	3.38182	0.0365	0.3316	0.2785	1.9900e-003		0.0252	0.0252		0.0252	0.0252		397.8608	397.8608	7.6300e-003	7.2900e-003	400.2251
Regional Shopping Center	0.040274	4.3000e-004	3.9500e-003	3.3200e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7381	4.7381	9.0000e-005	9.0000e-005	4.7663
Regional Shopping Center	0.0673973	7.3000e-004	6.6100e-003	5.5500e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004		7.9291	7.9291	1.5000e-004	1.5000e-004	7.9762
Regional Shopping Center	0.139726	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003		16.4384	16.4384	3.2000e-004	3.0000e-004	16.5360
Supermarket	4.30142	0.0464	0.4217	0.3542	2.5300e-003		0.0321	0.0321		0.0321	0.0321		506.0500	506.0500	9.7000e-003	9.2800e-003	509.0572
Total		**0.1599**	**1.4539**	**1.2212**	**8.7200e-003**		**0.1105**	**0.1105**		**0.1105**	**0.1105**		**1,744.6170**	**1,744.6170**	**0.0334**	**0.0320**	**1,754.9844**

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	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Unmitigated	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528

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	0.5606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.3576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1800e-003	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Total	**4.9204**	**2.1000e-004**	**0.0232**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0494**	**0.0494**	**1.3000e-004**		**0.0528**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.3576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1800e-003	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Total	**4.9204**	**2.1000e-004**	**0.0232**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0494**	**0.0494**	**1.3000e-004**		**0.0528**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

ITC Existing Uses

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
High Turnover (Sit Down Restaurant)	1.20	1000sqft	0.03	1,200.00	0
High Turnover (Sit Down Restaurant)	4.76	1000sqft	0.11	4,760.00	0
High Turnover (Sit Down Restaurant)	4.61	1000sqft	0.11	4,610.00	0
Automobile Care Center	44.00	1000sqft	1.01	44,000.00	0
Free-Standing Discount Store	22.19	1000sqft	0.51	22,190.00	0
Free-Standing Discount Store	5.00	1000sqft	0.11	5,000.00	0
Free-Standing Discount Store	16.57	1000sqft	0.38	16,570.00	0
Gasoline/Service Station	6.00	Pump	0.02	202.00	0
Regional Shopping Center	12.30	1000sqft	0.28	12,300.00	0
Regional Shopping Center	25.50	1000sqft	0.59	25,500.00	0
Regional Shopping Center	7.35	1000sqft	0.17	7,350.00	0
Supermarket	76.40	1000sqft	1.75	76,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**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 - '

Construction Phase - Existing Uses, no construction

Vehicle Trips - Using EMFAC for motor vehicle emissions

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblGrading	AcresOfGrading	0.00	10.00
tblLandUse	LandUseSquareFeet	847.05	202.00
tblSolidWaste	SolidWasteGenerationRate	188.20	188.24
tblVehicleTrips	ST_TR	23.72	0.00
tblVehicleTrips	ST_TR	71.07	0.00
tblVehicleTrips	ST_TR	168.56	0.00
tblVehicleTrips	ST_TR	158.37	0.00
tblVehicleTrips	ST_TR	49.97	0.00
tblVehicleTrips	ST_TR	177.59	0.00
tblVehicleTrips	SU_TR	11.88	0.00
tblVehicleTrips	SU_TR	56.36	0.00
tblVehicleTrips	SU_TR	168.56	0.00
tblVehicleTrips	SU_TR	131.84	0.00
tblVehicleTrips	SU_TR	25.24	0.00

tblVehicleTrips	SU_TR	166.44	0.00
tblVehicleTrips	WD_TR	23.72	0.00
tblVehicleTrips	WD_TR	57.24	0.00
tblVehicleTrips	WD_TR	168.56	0.00
tblVehicleTrips	WD_TR	127.15	0.00
tblVehicleTrips	WD_TR	42.70	0.00
tblVehicleTrips	WD_TR	102.24	0.00
tblWater	IndoorWaterUseRate	3,241,413.54	3,242,154.27
tblWater	OutdoorWaterUseRate	1,986,672.81	1,987,126.81

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	5.1146	0.0000	0.0000	4.7325	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.8662	0.0000	0.0000	0.8058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.1146**	**0.0000**	**0.0000**	**4.7325**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2019	0.0000	0.0000	0.0000	0.0000	0.0000	5.1146	0.0000	0.0000	4.7325	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2020	0.0000	0.0000	0.0000	0.0000	0.0000	0.8662	0.0000	0.0000	0.8058	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**5.1146**	**0.0000**	**0.0000**	**4.7325**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

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	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Energy	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.0803**	**1.4541**	**1.2444**	**8.7200e-003**	**0.0000**	**0.1106**	**0.1106**	**0.0000**	**0.1106**	**0.1106**		**1,744.6664**	**1,744.6664**	**0.0336**	**0.0320**	**1,755.0371**

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	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Energy	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**5.0803**	**1.4541**	**1.2444**	**8.7200e-003**	**0.0000**	**0.1106**	**0.1106**	**0.0000**	**0.1106**	**0.1106**		**1,744.6664**	**1,744.6664**	**0.0336**	**0.0320**	**1,755.0371**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2019	12/31/2018	5	0	
2	Site Preparation	Site Preparation	1/29/2019	1/28/2019	5	0	
3	Grading	Grading	2/12/2019	2/11/2019	5	0	
4	Building Construction	Building Construction	3/12/2019	3/11/2019	5	0	
5	Paving	Paving	1/28/2020	1/27/2020	5	0	
6	Architectural Coating	Architectural Coating	2/25/2020	2/24/2020	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 331,104; Non-Residential Outdoor: 110,368; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	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	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	72.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	14.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.3 Site Preparation - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 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					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2019

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2020

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Automobile Care Center	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Free-Standing Discount Store	0.00	0.00	0.00		
Gasoline/Service Station	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
High Turnover (Sit Down Restaurant)	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Regional Shopping Center	0.00	0.00	0.00		
Supermarket	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Automobile Care Center	16.60	8.40	6.90	33.00	48.00	19.00	21	51	28
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Free-Standing Discount Store	16.60	8.40	6.90	12.20	68.80	19.00	47.5	35.5	17
Gasoline/Service Station	16.60	8.40	6.90	2.00	79.00	19.00	14	27	59
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
High Turnover (Sit Down	16.60	8.40	6.90	8.50	72.50	19.00	37	20	43
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Regional Shopping Center	16.60	8.40	6.90	16.30	64.70	19.00	54	35	11
Supermarket	16.60	8.40	6.90	6.50	74.50	19.00	34	30	36

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Automobile Care Center	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
Free-Standing Discount Store	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
Gasoline/Service Station	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
High Turnover (Sit Down Restaurant)	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
Regional Shopping Center	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
Supermarket	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

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 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	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844
NaturalGas Unmitigated	0.1599	1.4539	1.2212	8.7200e-003		0.1105	0.1105		0.1105	0.1105		1,744.6170	1,744.6170	0.0334	0.0320	1,754.9844

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					
Automobile Care Center	2519.45	0.0272	0.2470	0.2075	1.4800e-003		0.0188	0.0188		0.0188	0.0188		296.4061	296.4061	5.6800e-003	5.4300e-003	298.1675
Free-Standing Discount Store	121.589	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		14.3046	14.3046	2.7000e-004	2.6000e-004	14.3896
Free-Standing Discount Store	27.3973	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2232	3.2232	6.0000e-005	6.0000e-005	3.2424
Free-Standing Discount Store	90.7945	9.8000e-004	8.9000e-003	7.4800e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004		10.6817	10.6817	2.0000e-004	2.0000e-004	10.7452
Gasoline/Service Station	11.5666	1.2000e-004	1.1300e-003	9.5000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3608	1.3608	3.0000e-005	2.0000e-005	1.3689
High Turnover (Sit Down Restaurant)	3275.25	0.0353	0.3211	0.2697	1.9300e-003		0.0244	0.0244		0.0244	0.0244		385.3232	385.3232	7.3900e-003	7.0600e-003	387.6130
High Turnover (Sit Down Restaurant)	3381.82	0.0365	0.3316	0.2785	1.9900e-003		0.0252	0.0252		0.0252	0.0252		397.8608	397.8608	7.6300e-003	7.2900e-003	400.2251
High Turnover (Sit Down Restaurant)	852.559	9.1900e-003	0.0836	0.0702	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.3011	100.3011	1.9200e-003	1.8400e-003	100.8971
Regional Shopping Center	139.726	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003		16.4384	16.4384	3.2000e-004	3.0000e-004	16.5360
Regional Shopping Center	40.274	4.3000e-004	3.9500e-003	3.3200e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7381	4.7381	9.0000e-005	9.0000e-005	4.7663
Regional Shopping Center	67.3973	7.3000e-004	6.6100e-003	5.5500e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004		7.9291	7.9291	1.5000e-004	1.5000e-004	7.9762
Supermarket	4301.42	0.0464	0.4217	0.3542	2.5300e-003		0.0321	0.0321		0.0321	0.0321		506.0500	506.0500	9.7000e-003	9.2800e-003	509.0572
Total		**0.1599**	**1.4539**	**1.2212**	**8.7200e-003**		**0.1105**	**0.1105**		**0.1105**	**0.1105**		**1,744.6170**	**1,744.6170**	**0.0334**	**0.0320**	**1,754.9844**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Automobile Care Center	2.51945	0.0272	0.2470	0.2075	1.4800e-003		0.0188	0.0188		0.0188	0.0188		296.4061	296.4061	5.6800e-003	5.4300e-003	298.1675
Free-Standing Discount Store	0.0273973	3.0000e-004	2.6900e-003	2.2600e-003	2.0000e-005		2.0000e-004	2.0000e-004		2.0000e-004	2.0000e-004		3.2232	3.2232	6.0000e-005	6.0000e-005	3.2424
Free-Standing Discount Store	0.0907945	9.8000e-004	8.9000e-003	7.4800e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004		10.6817	10.6817	2.0000e-004	2.0000e-004	10.7452
Free-Standing Discount Store	0.121589	1.3100e-003	0.0119	0.0100	7.0000e-005		9.1000e-004	9.1000e-004		9.1000e-004	9.1000e-004		14.3046	14.3046	2.7000e-004	2.6000e-004	14.3896
Gasoline/Service Station	0.0115666	1.2000e-004	1.1300e-003	9.5000e-004	1.0000e-005		9.0000e-005	9.0000e-005		9.0000e-005	9.0000e-005		1.3608	1.3608	3.0000e-005	2.0000e-005	1.3689
High Turnover (Sit Down Restaurant)	0.852559	9.1900e-003	0.0836	0.0702	5.0000e-004		6.3500e-003	6.3500e-003		6.3500e-003	6.3500e-003		100.3011	100.3011	1.9200e-003	1.8400e-003	100.8971
High Turnover (Sit Down Restaurant)	3.27525	0.0353	0.3211	0.2697	1.9300e-003		0.0244	0.0244		0.0244	0.0244		385.3232	385.3232	7.3900e-003	7.0600e-003	387.6130
High Turnover (Sit Down Restaurant)	3.38182	0.0365	0.3316	0.2785	1.9900e-003		0.0252	0.0252		0.0252	0.0252		397.8608	397.8608	7.6300e-003	7.2900e-003	400.2251
Regional Shopping Center	0.040274	4.3000e-004	3.9500e-003	3.3200e-003	2.0000e-005		3.0000e-004	3.0000e-004		3.0000e-004	3.0000e-004		4.7381	4.7381	9.0000e-005	9.0000e-005	4.7663
Regional Shopping Center	0.0673973	7.3000e-004	6.6100e-003	5.5500e-003	4.0000e-005		5.0000e-004	5.0000e-004		5.0000e-004	5.0000e-004		7.9291	7.9291	1.5000e-004	1.5000e-004	7.9762
Regional Shopping Center	0.139726	1.5100e-003	0.0137	0.0115	8.0000e-005		1.0400e-003	1.0400e-003		1.0400e-003	1.0400e-003		16.4384	16.4384	3.2000e-004	3.0000e-004	16.5360
Supermarket	4.30142	0.0464	0.4217	0.3542	2.5300e-003		0.0321	0.0321		0.0321	0.0321		506.0500	506.0500	9.7000e-003	9.2800e-003	509.0572
Total		**0.1599**	**1.4539**	**1.2212**	**8.7200e-003**		**0.1105**	**0.1105**		**0.1105**	**0.1105**		**1,744.6170**	**1,744.6170**	**0.0334**	**0.0320**	**1,754.9844**

6.0 Area Detail

6.1 Mitigation Measures Area

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Mitigated	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Unmitigated	4.9204	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528

6.2 Area by SubCategory

Unmitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	lb/day										lb/day					
Architectural Coating	0.5606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.3576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1800e-003	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Total	**4.9204**	**2.1000e-004**	**0.0232**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0494**	**0.0494**	**1.3000e-004**		**0.0528**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5606					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.3576					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1800e-003	2.1000e-004	0.0232	0.0000		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005		0.0494	0.0494	1.3000e-004		0.0528
Total	**4.9204**	**2.1000e-004**	**0.0232**	**0.0000**		**8.0000e-005**	**8.0000e-005**		**8.0000e-005**	**8.0000e-005**		**0.0494**	**0.0494**	**1.3000e-004**		**0.0528**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Inglewood Transit MSF

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	78.00	1000sqft	1.79	78,000.00	0
Parking Lot	300.00	Space	2.70	120,000.00	0
Arena	24.00	1000sqft	7.71	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	535	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison, 2018. ESG/Sustainability Template, September 27, 2018

Land Use -

Construction Phase - Construction emissions determined via EMFAC/OFFROAD

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	535
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4258	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106
Energy	0.0115	0.1045	0.0878	6.3000e-004		7.9400e-003	7.9400e-003		7.9400e-003	7.9400e-003	0.0000	333.1121	333.1121	0.0141	4.5500e-003	334.8185
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	19.7673	0.0000	19.7673	1.1682	0.0000	48.9726
Water						0.0000	0.0000		0.0000	0.0000	9.0024	91.4425	100.4449	0.9296	0.0229	130.4963
Total	**0.4373**	**0.1046**	**0.0929**	**6.3000e-004**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**28.7697**	**424.5646**	**453.3342**	**2.1119**	**0.0274**	**514.2979**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.4258	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106
Energy	0.0115	0.1045	0.0878	6.3000e-004		7.9400e-003	7.9400e-003		7.9400e-003	7.9400e-003	0.0000	333.1121	333.1121	0.0141	4.5500e-003	334.8185
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	19.7673	0.0000	19.7673	1.1682	0.0000	48.9726
Water						0.0000	0.0000		0.0000	0.0000	9.0024	91.4425	100.4449	0.9296	0.0229	130.4963
Total	**0.4373**	**0.1046**	**0.0929**	**6.3000e-004**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**0.0000**	**7.9600e-003**	**7.9600e-003**	**28.7697**	**424.5646**	**453.3342**	**2.1119**	**0.0274**	**514.2979**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/6/2024	4/5/2024	5	0	
2	Site Preparation	Site Preparation	5/4/2024	5/3/2024	5	0	
3	Grading	Grading	5/18/2024	5/17/2024	5	0	
4	Building Construction	Building Construction	6/29/2024	6/28/2024	5	0	
5	Paving	Paving	8/23/2025	8/22/2025	5	0	
6	Architectural Coating	Architectural Coating	9/20/2025	9/19/2025	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,000; Non-Residential Outdoor: 51,000; Striped Parking Area: 7,200 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2024

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2024

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
General Light Industry	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
Parking Lot	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	219.3512	219.3512	0.0119	2.4600e-003	220.3815
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	219.3512	219.3512	0.0119	2.4600e-003	220.3815
NaturalGas Mitigated	0.0115	0.1045	0.0878	6.3000e-004		7.9400e-003	7.9400e-003		7.9400e-003	7.9400e-003	0.0000	113.7610	113.7610	2.1800e-003	2.0900e-003	114.4370
NaturalGas Unmitigated	0.0115	0.1045	0.0878	6.3000e-004		7.9400e-003	7.9400e-003		7.9400e-003	7.9400e-003	0.0000	113.7610	113.7610	2.1800e-003	2.0900e-003	114.4370

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	501600	2.7000e-003	0.0246	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	26.7673	26.7673	5.1000e-004	4.9000e-004	26.9264
General Light Industry	1.6302e+006	8.7900e-003	0.0799	0.0671	4.8000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.0000	86.9937	86.9937	1.6700e-003	1.5900e-003	87.5106
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0115**	**0.1045**	**0.0878**	**6.3000e-004**		**7.9400e-003**	**7.9400e-003**		**7.9400e-003**	**7.9400e-003**	**0.0000**	**113.7610**	**113.7610**	**2.1800e-003**	**2.0800e-003**	**114.4370**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Arena	501600	2.7000e-003	0.0246	0.0207	1.5000e-004		1.8700e-003	1.8700e-003		1.8700e-003	1.8700e-003	0.0000	26.7673	26.7673	5.1000e-004	4.9000e-004	26.9264
General Light Industry	1.6302e+006	8.7900e-003	0.0799	0.0671	4.8000e-004		6.0700e-003	6.0700e-003		6.0700e-003	6.0700e-003	0.0000	86.9937	86.9937	1.6700e-003	1.5900e-003	87.5106
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0115**	**0.1045**	**0.0878**	**6.3000e-004**		**7.9400e-003**	**7.9400e-003**		**7.9400e-003**	**7.9400e-003**	**0.0000**	**113.7610**	**113.7610**	**2.1800e-003**	**2.0800e-003**	**114.4370**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	202800	49.2139	2.6700e-003	5.5000e-004	49.4450
General Light Industry	659100	159.9451	8.6700e-003	1.7900e-003	160.6964
Parking Lot	42000	10.1922	5.5000e-004	1.1000e-004	10.2401
Total		**219.3511**	**0.0119**	**2.4500e-003**	**220.3815**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Arena	202800	49.2139	2.6700e-003	5.5000e-004	49.4450
General Light Industry	659100	159.9451	8.6700e-003	1.7900e-003	160.6964
Parking Lot	42000	10.1922	5.5000e-004	1.1000e-004	10.2401
Total		**219.3511**	**0.0119**	**2.4500e-003**	**220.3815**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4258	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106
Unmitigated	0.4258	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0490					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3763					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106
Total	**0.4258**	**5.0000e-005**	**5.1200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9800e-003**	**9.9800e-003**	**3.0000e-005**	**0.0000**	**0.0106**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0490					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3763					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	4.7000e-004	5.0000e-005	5.1200e-003	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	9.9800e-003	9.9800e-003	3.0000e-005	0.0000	0.0106
Total	**0.4258**	**5.0000e-005**	**5.1200e-003**	**0.0000**		**2.0000e-005**	**2.0000e-005**		**2.0000e-005**	**2.0000e-005**	**0.0000**	**9.9800e-003**	**9.9800e-003**	**3.0000e-005**	**0.0000**	**0.0106**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	100.4449	0.9296	0.0229	130.4963
Unmitigated	100.4449	0.9296	0.0229	130.4963

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	10.3385 / 0.659903	37.7269	0.3388	8.3400e-003	48.6812
General Light Industry	18.0375 / 0	62.7179	0.5908	0.0145	81.8151
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**100.4449**	**0.9296**	**0.0229**	**130.4963**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Arena	10.3385 / 0.659903	37.7269	0.3388	8.3400e-003	48.6812
General Light Industry	18.0375 / 0	62.7179	0.5908	0.0145	81.8151
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**100.4449**	**0.9296**	**0.0229**	**130.4963**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	19.7673	1.1682	0.0000	48.9726
Unmitigated	19.7673	1.1682	0.0000	48.9726

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.66	0.1340	7.9200e-003	0.0000	0.3319
General Light Industry	96.72	19.6333	1.1603	0.0000	48.6406
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.7673**	**1.1682**	**0.0000**	**48.9726**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Arena	0.66	0.1340	7.9200e-003	0.0000	0.3319
General Light Industry	96.72	19.6333	1.1603	0.0000	48.6406
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		**19.7673**	**1.1682**	**0.0000**	**48.9726**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Inglewood Transit MSF

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	78.00	1000sqft	1.79	78,000.00	0
Parking Lot	300.00	Space	2.70	120,000.00	0
Arena	24.00	1000sqft	7.71	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	535	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison, 2018. ESG/Sustainability Template, September 27, 2018

Land Use -

Construction Phase - Construction emissions determined via EMFAC/OFFROAD

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	535
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	4.1523	0.0000	0.0000	3.8417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.4726	0.0000	0.0000	0.4389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.1523**	**0.0000**	**0.0000**	**3.8417**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	4.1523	0.0000	0.0000	3.8417	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.4726	0.0000	0.0000	0.4389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.1523**	**0.0000**	**0.0000**	**3.8417**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Energy	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.3971**	**0.5730**	**0.5219**	**3.4400e-003**	**0.0000**	**0.0437**	**0.0437**	**0.0000**	**0.0437**	**0.0437**		**687.2113**	**687.2113**	**0.0134**	**0.0126**	**691.3002**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Energy	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.3971**	**0.5730**	**0.5219**	**3.4400e-003**	**0.0000**	**0.0437**	**0.0437**	**0.0000**	**0.0437**	**0.0437**		**687.2113**	**687.2113**	**0.0134**	**0.0126**	**691.3002**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/6/2024	4/5/2024	5	0	
2	Site Preparation	Site Preparation	5/4/2024	5/3/2024	5	0	
3	Grading	Grading	5/18/2024	5/17/2024	5	0	
4	Building Construction	Building Construction	6/29/2024	6/28/2024	5	0	
5	Paving	Paving	8/23/2025	8/22/2025	5	0	
6	Architectural Coating	Architectural Coating	9/20/2025	9/19/2025	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,000; Non-Residential Outdoor: 51,000; Striped Parking Area: 7,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

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

3.2 Demolition - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.2 Demolition - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2024

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

3.5 Building Construction - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
General Light Industry	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
Parking Lot	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
NaturalGas Unmitigated	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065

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					
Arena	1374.25	0.0148	0.1347	0.1132	8.1000e-004		0.0102	0.0102		0.0102	0.0102		161.6761	161.6761	3.1000e-003	2.9600e-003	162.6368
General Light Industry	4466.3	0.0482	0.4379	0.3678	2.6300e-003		0.0333	0.0333		0.0333	0.0333		525.4472	525.4472	0.0101	9.6300e-003	528.5697
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
Total		**0.0630**	**0.5726**	**0.4810**	**3.4400e-003**		**0.0435**	**0.0435**		**0.0435**	**0.0435**		**687.1233**	**687.1233**	**0.0132**	**0.0126**	**691.2065**

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					
Arena	1.37425	0.0148	0.1347	0.1132	8.1000e-004		0.0102	0.0102		0.0102	0.0102		161.6761	161.6761	3.1000e-003	2.9600e-003	162.6368
General Light Industry	4.4663	0.0482	0.4379	0.3678	2.6300e-003		0.0333	0.0333		0.0333	0.0333		525.4472	525.4472	0.0101	9.6300e-003	528.5697
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
Total		**0.0630**	**0.5726**	**0.4810**	**3.4400e-003**		**0.0435**	**0.0435**		**0.0435**	**0.0435**		**687.1233**	**687.1233**	**0.0132**	**0.0126**	**691.2065**

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	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Unmitigated	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937

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	0.2682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0621					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7700e-003	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Total	**2.3341**	**3.7000e-004**	**0.0409**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0880**	**0.0880**	**2.3000e-004**		**0.0937**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0621					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7700e-003	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Total	**2.3341**	**3.7000e-004**	**0.0409**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0880**	**0.0880**	**2.3000e-004**		**0.0937**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Inglewood Transit MSF

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	78.00	1000sqft	1.79	78,000.00	0
Parking Lot	300.00	Space	2.70	120,000.00	0
Arena	24.00	1000sqft	7.71	24,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2026
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	535	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Southern California Edison, 2018. ESG/Sustainability Template, September 27, 2018

Land Use -

Construction Phase - Construction emissions determined via EMFAC/OFFROAD

Vehicle Trips - Using EMFAC for motor vehicle emissions

Grading -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	30.00	0.00
tblConstructionPhase	NumDays	300.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	535
tblVehicleTrips	ST_TR	10.71	0.00
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	SU_TR	10.71	0.00
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	WD_TR	10.71	0.00
tblVehicleTrips	WD_TR	6.97	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	4.1524	0.0000	0.0000	3.8418	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.4726	0.0000	0.0000	0.4389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.1524**	**0.0000**	**0.0000**	**3.8418**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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					
2024	0.0000	0.0000	0.0000	0.0000	0.0000	4.1524	0.0000	0.0000	3.8418	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2025	0.0000	0.0000	0.0000	0.0000	0.0000	0.4726	0.0000	0.0000	0.4389	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**4.1524**	**0.0000**	**0.0000**	**3.8418**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Energy	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.3971**	**0.5730**	**0.5219**	**3.4400e-003**	**0.0000**	**0.0437**	**0.0437**	**0.0000**	**0.0437**	**0.0437**		**687.2113**	**687.2113**	**0.0134**	**0.0126**	**691.3002**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Energy	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.3971**	**0.5730**	**0.5219**	**3.4400e-003**	**0.0000**	**0.0437**	**0.0437**	**0.0000**	**0.0437**	**0.0437**		**687.2113**	**687.2113**	**0.0134**	**0.0126**	**691.3002**

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

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	4/6/2024	4/5/2024	5	0	
2	Site Preparation	Site Preparation	5/4/2024	5/3/2024	5	0	
3	Grading	Grading	5/18/2024	5/17/2024	5	0	
4	Building Construction	Building Construction	6/29/2024	6/28/2024	5	0	
5	Paving	Paving	8/23/2025	8/22/2025	5	0	
6	Architectural Coating	Architectural Coating	9/20/2025	9/19/2025	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 2.7

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 153,000; Non-Residential Outdoor: 51,000; Striped Parking Area: 7,200 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	93.00	36.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	19.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2024

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

3.2 Demolition - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.2 Demolition - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2024

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

3.5 Building Construction - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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

3.5 Building Construction - 2024

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2025

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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Arena	0.00	0.00	0.00		
General Light Industry	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Arena	16.60	8.40	6.90	0.00	81.00	19.00	66	28	6
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Arena	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
General Light Industry	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811
Parking Lot	0.554129	0.042164	0.205182	0.113554	0.013848	0.005806	0.021992	0.033191	0.002140	0.001609	0.004858	0.000715	0.000811

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065
NaturalGas Unmitigated	0.0630	0.5726	0.4810	3.4400e-003		0.0435	0.0435		0.0435	0.0435		687.1233	687.1233	0.0132	0.0126	691.2065

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					
Arena	1374.25	0.0148	0.1347	0.1132	8.1000e-004		0.0102	0.0102		0.0102	0.0102		161.6761	161.6761	3.1000e-003	2.9600e-003	162.6368
General Light Industry	4466.3	0.0482	0.4379	0.3678	2.6300e-003		0.0333	0.0333		0.0333	0.0333		525.4472	525.4472	0.0101	9.6300e-003	528.5697
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
Total		**0.0630**	**0.5726**	**0.4810**	**3.4400e-003**		**0.0435**	**0.0435**		**0.0435**	**0.0435**		**687.1233**	**687.1233**	**0.0132**	**0.0126**	**691.2065**

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					
Arena	1.37425	0.0148	0.1347	0.1132	8.1000e-004		0.0102	0.0102		0.0102	0.0102		161.6761	161.6761	3.1000e-003	2.9600e-003	162.6368
General Light Industry	4.4663	0.0482	0.4379	0.3678	2.6300e-003		0.0333	0.0333		0.0333	0.0333		525.4472	525.4472	0.0101	9.6300e-003	528.5697
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
Total		**0.0630**	**0.5726**	**0.4810**	**3.4400e-003**		**0.0435**	**0.0435**		**0.0435**	**0.0435**		**687.1233**	**687.1233**	**0.0132**	**0.0126**	**691.2065**

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	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Unmitigated	2.3341	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937

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	0.2682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0621					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7700e-003	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Total	**2.3341**	**3.7000e-004**	**0.0409**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0880**	**0.0880**	**2.3000e-004**		**0.0937**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.2682					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.0621					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	3.7700e-003	3.7000e-004	0.0409	0.0000		1.5000e-004	1.5000e-004		1.5000e-004	1.5000e-004		0.0880	0.0880	2.3000e-004		0.0937
Total	**2.3341**	**3.7000e-004**	**0.0409**	**0.0000**		**1.5000e-004**	**1.5000e-004**		**1.5000e-004**	**1.5000e-004**		**0.0880**	**0.0880**	**2.3000e-004**		**0.0937**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

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

User Defined Equipment

Equipment Type	Number

11.0 Vegetation