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MEMORANDUM

DATE: July 17, 2020

To: Kevin Joe, AICP, Planning Associate
City of Torrance Community Development Department, Planning Division

FROM: Michael Slavick, Senior Air Quality Specialist, LSA

SUBJECT: Revised Air Quality and Greenhouse Gas Emission Technical Memorandum for the 24601 Hawthorne Boulevard Mixed Use Development Project (LSA Project No. ADC1701)

CEQA Initial Study - Air Quality Section 3 and Greenhouse Gas Section 7 for City Application No. CUP17-00013, PRE17-00007, DVP17-00002, DIV17-00008.

This revised Air Quality and Greenhouse Gas Emission Technical Memorandum has been prepared for the 24601 Hawthorne Boulevard Mixed Use Development Project to address City comments and updates to the project description analyzed under previous versions of this report. The air quality and greenhouse gas sections provided below detail the results of the analyses to address the requirements for the addition of newly identified retaining walls and updates to the project site plan.

This Technical Memorandum provides an evaluation of air quality and greenhouse gas (GHG) emissions associated with the proposed 24601 Hawthorne Boulevard Mixed Use Development Project. The project would construct 11 residential units and a 3,300-square foot commercial office space comprising three stories and 36 parking spaces on 0.54 acre in the City of Torrance (City), Los Angeles County. The proposed project site is currently bounded by a Chevron gas station approximately 98 feet downhill to the northeast and single-family residential homes approximately five feet to the northwest. Because of the close proximity to the gas station, the City has requested for a screening health risk assessment.

This memorandum follows the air quality and greenhouse gas (GHG) sections of the City of Torrance's CEQA Initial Study checklist form.

AIR QUALITY

Criteria pollutant emissions from construction and operational activities associated with the proposed project would be less than significant. Results of the screening health risk assessment (HRA) conclude that the cancer risk for future residents associated with exposure to gas station emissions would not exceed the significance criteria for toxic air contaminants as established by the SCAQMD. Therefore, the future residents' and office workers' exposure to the gas station emissions would be less than significant. This section describes the regulatory framework and significance criteria for addressing air quality impacts. This section also includes an analysis of project related impacts, consistent with the CEQA Guidelines.

Regulatory Setting

Federal

United States Environmental Protection Agency (U.S. EPA)

The U.S. EPA is responsible for enforcing the Federal Clean Air Act (CAA), the legislation that governs air quality in the United States. U.S. EPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. U.S. EPA has jurisdiction over emission standards, including those for vehicles sold in States other than California, where automobiles must meet stricter emission standards set by the ARB.

As required by the CAA, NAAQS have been established for seven major air pollutants: CO, NO₂, O₃, PM_{2.5}, PM₁₀, SO₂, and Pb. The CAA requires EPA to designate areas as attainment, nonattainment, or maintenance for each criteria pollutant based on whether the NAAQS have been achieved. The USEPA has classified the South Coast Air Basin as nonattainment for O₃, PM_{2.5}, and Pb (Los Angeles only).

State

In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). The ARB, which became part of the California Environmental Protection Agency in 1991, is responsible for administering the CCAA and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to achieve and maintain the CAAQS, which are generally more stringent than the federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

The ARB has broad authority to regulate mobile air pollution sources, such as motor vehicles. It is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. The ARB establishes passenger vehicle fuel specifications, which became effective in March 1996. The ARB oversees the functions of local air pollution control districts and air quality management districts, which, in turn, administer air quality activities at the regional and county levels.

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

Local

South Coast Air Quality Management District

The 1977 Lewis Air Quality Management Act merged four air pollution control districts to create the SCAQMD to coordinate air quality planning efforts throughout Southern California. It is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards. Programs include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The SCAQMD monitors air quality over its jurisdiction of 10,743 square miles, including the South Coast Air Basin, which covers an area of 6,745 square miles and is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east; and the San Diego County line to the south. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The SCAQMD also regulates the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin.

All areas designated as non-attainment under the CCAA are required to prepare plans showing how they will meet the air quality standards. The SCAQMD prepares the AQMP to address CAA and CCAA requirements by identifying policies and control measures. The SCAG assists by preparing the transportation portion of the AQMP.

Summary of CEQA Significance Thresholds

The SCAQMD has established emissions thresholds for construction and operation for CEQA evaluation of the proposed project in the South Coast Air Basin. It should be noted that the emissions thresholds were established based on the attainment status of the air basin in regard to air quality standards for specific criteria pollutants. Four sets of thresholds are summarized below.

Regional Emission Thresholds

The Basin is currently designated as nonattainment for the federal and State standards for O₃ and PM_{2.5}. In addition, the Basin is in nonattainment for the PM₁₀ standard. The Basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself,

result in nonattainment of AAQS. Instead, a project’s individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project’s contribution to the cumulative impact is considerable, then the project’s impact on air quality would be considered significant.

If a project exceeds the identified SCAQMD significance thresholds identified in Table 1, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region’s existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is not necessary. The following analysis assesses the potential project-level air quality impacts associated with construction and operation of the proposed project.

Table 1: SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
VOCs	75 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day
NOx	100 lbs/day	55 lbs/day
SOx	150 lbs/day	150 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day

Source: South Coast Air Quality Management District Air Quality Significance Thresholds (Last revisions: March 2015).

CO = carbon monoxide
lbs = pounds

NOx = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size

VOCs = volatile organic compounds

SCAQMD = South Coast Air Quality Management District

SOx = sulfur oxides

Projects with construction and/or operational emissions that exceed any of these emission thresholds are considered to be significant under the SCAQMD guidelines.

Localized Significance Thresholds

The SCAQMD published its *Final Localized Significance Threshold Methodology* in June 2003, recommending that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. Localized significance thresholds (LSTs) represent the maximum emissions from a project site that is not expected to result in an exceedance of the California ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the project Source Receptor Area (SRA) and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST is the Southwest Coastal Los Angeles County area (SRA 3).

Existing sensitive receptors nearest to the project site are approximately 5 feet, or approximately 1.6 meters (m), from the project site. Using the operations LST for receptors at less than 25 m from a 1-acre site for this project would result in a conservative analysis. Therefore, Table 2 presents the emissions thresholds that apply during project operations.

Table 2: SCAQMD Localized Significance Thresholds (lbs/day)

	NO_x	CO	PM₁₀	PM_{2.5}
Construction	91.0	644.0	5.0	3.0
Operations	91.0	644.0	1.0	1.0

Source: SCAQMD Localized Significance Threshold Methodology (Last revisions: July 2008).

Note: SRA 3 – Southwest Coastal Los Angeles County, 1 acre, <25-meter distance.

Screening Health Risk Assessment Thresholds

The ARB has developed an Air Quality and Land Use Handbook¹ intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. According to the ARB Handbook, recent air pollution studies have shown an association between respiratory and other non-cancer health effects and proximity to high-traffic roadways. The ARB Handbook recommends that planning agencies strongly consider proximity to these sources when finding new locations for “sensitive” land uses such as residential homes. Key recommendations in the ARB Handbook include taking steps to avoid siting new, sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). The ARB Handbook specifically states that its recommendations are advisory and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

The SCAQMD Air Quality CEQA Guidelines establish risk thresholds for projects under CEQA that have the potential to expose sensitive receptors (including residential areas) or the general public to substantial levels of toxic air contaminants (TAC). Table 3, the SCAQMD Toxic Air Contaminants Incremental Risk Thresholds, lists the air district’s TAC incremental risk thresholds for operation of a project.

Table 3: SCAQMD Toxic Air Contaminant Incremental Risk Thresholds

Maximum Individual Cancer Risk	≥ 10 in 1 million
Cancer Burden	> 0.5 excess cancer cases
Hazard Index	≥ 1.0

Source: South Coast Air Quality Management District Air Quality Significance Thresholds (Last revisions: March 2015).

AIR QUALITY IMPACT ANALYSIS

A brief discussion of the air quality, screening health risk, and GHG impact analysis associated with the proposed project is provided below.

¹ California Air Resources Board, 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*. April.

Air Quality Management Plan Consistency Analysis

A consistency determination plays an essential role in local agency project review by linking local planning and unique individual projects to the air quality plans. It fulfills the CEQA goal of fully informing local agency decision-makers of the environmental costs of the project under consideration at a stage early enough to ensure that air quality concerns are addressed. Only new or amended General Plan elements, Specific Plans, and significantly unique projects need to undergo a consistency review due to the air quality plan strategy being based on projections from local General Plans.

The California Air Resources Board (ARB) is responsible for incorporating air quality management plans (AQMP) for local air basins into an SIP for EPA approval. Significant authority for air quality control within them has been given to local air districts that regulate stationary-source emissions and develop local nonattainment plans.

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) are responsible for formulating and implementing the AQMP for the Basin. Every 3 years, the SCAQMD prepares a new AQMP, updating the previous plan and 20-year horizon. The SCAQMD adopted the 2016 AQMP in March 3, 2017 (SCAQMD 2017). The ARB approved the plan on March 10, 2017, and forwarded the AQMP to the EPA.

An AQMP describes air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. The CEQA requires that certain projects be analyzed for consistency with the AQMP. A project is consistent with an AQMP if it will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, and is consistent with the growth assumptions in the AQMP.

The Final 2016 AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2016 Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The Final 2016 AQMP included the new and changing federal requirements, implementation of new technology measures, and continued development of economically sound, flexible compliance approaches. The AQMP also provides policies and measures to guide responsible agencies in achieving federal standards for healthful air quality in the Basin. It also incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources.

Regional growth projections are used by SCAQMD to forecast future emission levels in the air basin. For southern California, these regional growth projections are provided by the SCAG and are partially based on land use designations in city/county general plans. Typically, only large, regionally significant projects have the potential to affect the regional growth projections. The proposed project is not considered a regionally significant project that would warrant Intergovernmental Review by SCAG under *CEQA Guidelines* section 15206.

The proposed project involves the construction of a total 13 residential units and a 4,500 square feet commercial office space comprising three stories and 42 parking spaces. While the proposed project would result in an increase of approximately 36 residents and patrons, the project would not substantially affect the regional growth projections because the proposed mixed land use development will be consistent with the City of Torrance's proposed General Plan land use designation of the project Site. The proposed project is a mixed use development and is below the 500 residential units' threshold for regionally significant residential projects under CEQA; therefore, it does not meet the SCAG's Intergovernmental Review (IGR) criteria.

Additionally, the regional emissions generated by construction and operation phases of the proposed project would be less than the SCAQMD emissions thresholds [refer to Section 3 (b) below], and SCAQMD would not consider the project a substantial source of air pollutant emissions that would have the potential to affect the attainment designations in the air basin. Therefore, the proposed project would not affect the regional emissions inventory or conflict with strategies in the AQMP.

City of Torrance

The City of Torrance 2009 General Plan Air Quality Element include goals and measures for the achievement of air quality standards, increased mixed use development, and increased energy efficiency and conservation (City of Torrance 2009). The project demonstrates consistency with the General Plan goals to achieve air quality attainment goals during both construction and operation through emission estimates that are below both South Coast Air Quality Management District's (SCAQMD) local and regional mass daily thresholds.

The City's General Plan is consistent with the SCAG Regional Comprehensive Plan (RCP) Guidelines and the SCAQMD AQMP. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *Air Quality Analysis Guidance Handbook* (1993), consistency with the AQMP is affirmed when a project (1) does not increase the frequency or severity of an air quality standards violation or cause a new violation; and (2) is consistent with the growth assumptions in the AQMP. Consistency review for the proposed Project includes the following:

- The project would result in short-term construction and long-term pollutant emissions that are less than the CEQA significance thresholds established by the SCAQMD for localized and regional emissions [refer to Section 3 (b)]. Therefore, the project could not result in an increase in the frequency or severity of any air quality standards violation and will not cause a new air quality standard violation.
- The *Air Quality Analysis Guidance Handbook* (1993) indicates that consistency with AQMP growth assumptions must be analyzed for new or amended General Plan elements, Specific Plans, and significant projects. As discussed previously, the project is not considered to be a regionally significant project under CEQA. The land use envisioned for the Project site would not result in emissions that exceed the SCAQMD's significance local and regional thresholds [refer to Section 3 (b)] for both the construction and operations phases of the project.

Because the proposed Project would not exceed localized and regional significant thresholds for the construction and operation of the project as well as being consistent with the General Plan and

AQMP, the proposed Project would not result in a significant impact for conflicts with the City's General Plan and the AQMP. Impacts to the applicable air quality plan would be less than significant, and no mitigation measures would be required.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact

Criteria Pollutant Analysis

To evaluate air quality emissions from the construction and operation of the proposed project, LSA conducted the California Emission Estimator Model (CalEEMod), which is the current air quality and land use emissions model recommended, by the ARB for evaluating emissions from land use projects. Emissions from construction were based on the CalEEMod model default mode construction scenario and schedule. Emissions from operation of the project included vehicle emissions, area source emissions, and energy use emissions. Emissions were then compared with significance thresholds from the SCAQMD.

Construction Air Quality Emissions

Construction emissions can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors. Construction would require heavy equipment during grading, retaining wall installation, utility installation, building construction, paving, and architectural coating. Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change. The use of construction equipment on site would result in exhaust emissions. Air pollutant emission sources during project construction would include the following:

- Exhaust and particulate emissions generated from construction equipment;
- Fugitive dust from soil disturbance during site preparation, grading, and excavation activities; and
- Volatile compounds that evaporate during site paving and painting of the structures.

For purposes of air quality analysis, it is assumed that construction would take place in phases. Each individual phase of project development would include the following construction activities:

- Site preparation;
- Grading;
- Building construction;
- Paving and surface improvement; and
- Architectural coating (painting).

Construction equipment estimates are based on default values in CalEEMod (Version 2016.3.1). CalEEMod is designed to model construction emissions for land development projects and allows for

the input of project-specific information, such as the amount of equipment, hours of operations, duration of construction activities, and selection of emission control measures. The construction analysis includes estimating the construction equipment that would be used during each construction activity, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and on-road vehicle trips (worker, soil-hauling, and vendor trips). The proposed earthwork for the project assumes balanced cut (1,556 cubic yards) and fill (1,566 cubic yards) with an additional 10 cubic yards of soil material to complete the fill of the graded site. CalEEMod modeling and defaults are assumed for the construction activities, off-road equipment, on-road construction fleet mix, and trip lengths. Attachment A shows results from the model. Table 4 shows the construction emissions from the CalEEMod output tables. Application of water three times daily during grading was taken into consideration. The proposed project will be required to comply with a minimum of ARB/EPA Tier 2 engine standards for off-road equipment and SCAQMD Rule 403 to control fugitive dust. Table 4 includes implementation of fugitive dust control measures required by SCAQMD under Rule 403, including watering disturbed areas a minimum of three times per day, reducing speed limit to 15 miles per hour on unpaved surfaces and replacing groundcover quickly. Based on CalEEMod default selections, the fugitive dust control efficiency for on-site watering three times daily is 61 percent. Attachment A includes CalEEMod outputs.

Table 4: Estimated Construction Emissions

Construction Phase	Peak Daily Pollutant Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Max Daily Emissions during Construction Year 2021	18.6	35.4	25.5	0.05	3.6	2.3
SCAQMD Thresholds	75.0	100.0	550.0	150.00	150.0	55.0
Significant Emissions?	No	No	No	No	No	No

Source: Compiled by LSA (July 2020).

CO = carbon monoxide
 lbs/day = pounds per day
 NOx = nitrogen oxides
 PM_{2.5} = particulate matter less than 2.5 microns in size

PM₁₀ = particulate matter less than 10 microns in size
 SCAQMD = South Coast Air Quality Management District
 SOx = sulfur oxides
 VOC = volatile organic compounds

Table 4 provides a summary of the daily construction emission estimates by construction activity during the respective calendar year. Results from the CalEEMod analysis, as shown in Table 4, indicate that the construction pollutant emissions from the proposed project would not exceed the corresponding SCAQMD daily emission thresholds for criteria pollutants. Therefore, construction impacts would be less than significant.

Construction Localized Impacts Analysis

The SCAQMD has issued guidance on applying CalEEMod modeling results to localized impacts analyses. Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. There are several existing residences surrounding the project site, the closest of which is approximately 5 feet (1.6 m). Using the SCAQMD LST guidance for five acres, Table 5 shows that the emissions of the pollutants on the peak day of construction will result in concentrations of pollutants at the nearest residences that are all below the SCAQMD thresholds of significance.

Table 5: Construction Localized Impacts Analysis

Emissions Sources	NOx	CO	PM ₁₀	PM _{2.5}
On-Site Emissions (lbs/day)	35.0	25.0	3.4	2.3
Local Significance Thresholds (lbs/day)	91.0	644.0	5.0	3.0
Significant Emissions?	No	No	No	No

Source: Compiled by LSA (July 2020).

Note: Source Receptor Area – Southwest Coastal LA County, 1 acre, <25 meter distance

CO = carbon monoxide

PM_{2.5} = particulate matter less than 2.5 microns in size

lbs/day = pounds per day

PM₁₀ = particulate matter less than 10 microns in size

NOx = nitrogen oxides

Operational Air Quality Emissions

Operational emissions from area sources include the combustion of natural gas for heating and hot water, engine emissions from landscape maintenance equipment, and the use of appliances at the residences. Mobile source emissions are associated with project-related vehicle trip generation. Based on the CalEEMod model default mode at full buildout, the project would generate approximately 110 average daily trips (ADT). Table 6 presents the estimated operational emissions for the proposed project and demonstrates criteria pollutant emissions from operational activities associated with the proposed project would be below the SCAQMD thresholds. Therefore, project-related operational emissions would be less than significant.

Table 6: Operational Emissions

Source	Pollutant Emissions (lbs/day)					
	VOC	NOx	CO	SOx	PM ₁₀	PM _{2.5}
Area Sources	0.3	<0.1	0.9	<0.01	<0.1	<0.1
Energy Sources	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01
Mobile Sources	0.2	1.0	2.6	<0.01	0.8	0.2
Total Project Emissions	0.5	1.0	3.6	<0.01	0.8	0.2
SCAQMD Thresholds	55.0	55.0	550.0	150.0	150.0	55.0
Significant?	No	No	No	No	No	No

Source: Compiled by LSA. (July 2020).

CO = carbon monoxide

PM₁₀ = particulate matter less than 10 microns in size

lbs/day = pounds per day

SCAQMD = South Coast Air Quality Management District

NOx = nitrogen oxides

SOx = sulfur oxides

PM_{2.5} = particulate matter less than 2.5 microns in size

VOC = volatile organic compounds

Operational Localized Impacts Analysis

Table 7 shows the calculated emissions for the proposed operational activities compared with the appropriate LSTs. By design, the localized impacts analysis only includes on-site sources; however, CalEEMod outputs do not separate on-site and off-site emissions for mobile sources. For a worst-case scenario assessment, the emissions shown in Table 7 include all on-site project-related stationary sources and 2 percent of the project-related new mobile sources, which is an estimate of the amount of project-related new vehicle traffic that will occur on site (i.e., driveways and parking lots). All off-site emissions are subtracted from the total emissions.

Table 7: Long-Term Operational Localized Impacts Analysis

Emissions Sources	NOx	CO	PM ₁₀	PM _{2.5}
On-Site Emissions (lbs/day) ¹	0.1	1.0	0.04	0.02
Local Significance Thresholds (lbs/day)	91.0	664.0	1.0	1.0
Significant Emissions?	No	No	No	No

Source: Compiled by LSA. (July 2020).

Note: Source Receptor Area – Southwest Coastal LA County, 1 acre, <25 meter distance.

¹ CalEEMod clearly delineates the on-site and off-site emissions and mobile source trips within the project area (i.e., driveways and parking lots).

CO = carbon monoxide
NOx = nitrogen oxides

PM_{2.5} = particulate matter less than 2.5 microns in size
PM₁₀ = particulate matter less than 10 microns in size

Table 7 shows that the operational emission rates would not exceed the LSTs for receptors at 5 feet (1.6 m). Therefore, the proposed operational activities would not result in a locally significant air quality impact.

Conclusion for impacts on Air Quality Analysis

As shown in Tables 4 through 7, criteria pollutant emissions from construction and operational activities associated with the proposed project would be below the SCAQMD thresholds. Therefore, project-related construction and operational emissions would be less than significant. Results of the screening health risk assessment conclude that the cancer risk for future residents associated with exposure to gas station emissions would not exceed the significance criteria for toxic air contaminants as established by the SCAQMD. Therefore, the future residents’ and office workers’ exposure to the gas station emissions would be less than significant.

No exceedance of SCAQMD criteria pollutant emission thresholds would be anticipated for the proposed Project. The proposed project would not contribute significantly to cumulative impacts on any pollutants for which the region is in non-attainment. Specifically, the proposed project construction and operational emissions would not exceed the SCAQMD’s mass daily thresholds for VOC and NOx that serve as project and cumulative impact thresholds of significance for gauging regional ozone impacts. Similarly, the proposed project would not exceed the SCAQMD’s LST thresholds for localized CO, NOx, PM₁₀, or PM_{2.5} emissions. As noted in Tables 6 and 7, the proposed project would not exceed LST thresholds for PM₁₀, PM_{2.5}, NO₂, and CO emissions. Therefore, the proposed project’s contribution to cumulative air quality impacts is not cumulatively considerable.

As for cumulative impacts to regional ozone air quality, the proposed residential land uses would neither conflict with the SCAQMD’s 2016 AQMP nor jeopardize the region’s attainment of air quality standards. While the proposed project would increase the population in the City of Torrance by approximately 36 persons, it would not jeopardize the region’s attainment of air quality standards. That is, the project is consistent with the City of Torrance’s General Plan, as well as the population growth projections used by SCAG to identify future air quality emissions that must be mitigated through the 2016 AQMP. As such, impacts would be less than significant.

The SCAQMD uses the project level significance thresholds to determine whether a project’s emissions are cumulatively considerable. Because the project’s emissions do not exceed the

SCAQMD's regional significance thresholds, the SCAQMD does not consider the project to contribute significantly to a cumulative air quality impact. Therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable NAAQS and CAAQS, and impacts would be less than significant. No mitigation is required.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Localized air quality impacts were evaluated at sensitive receptor land uses nearest the project site. The SCAQMD recommends that the nearest sensitive receptor be considered when determining the project's potential to cause an individual and cumulatively significant impact. All distances are measured from the project site boundary to the outdoor residential living areas (e.g., backyards) or at the building façade, whichever is closer to the project site. As previously stated in Response (b), and consistent with *LST Methodology*, the nearest sensitive receptor to the project site is used to determine construction and operational LST air impacts for emissions of NO_x and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assume that an individual could be present at these sites for periods of one to eight hours. The closest sensitive receptors would be the single-family residential land uses located at approximately five to six feet to the south and west. These existing receptors could potentially be affected by construction and operation at the project site.

As described above, the proposed project would not significantly increase short and long-term emissions within the project area. Construction of the proposed Project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement measures to reduce or eliminate emissions by following SCAQMD standard construction practices. The localized construction emissions analysis indicates that less than significant impacts to localized air quality would occur. Therefore, because construction activities would emit less than significant air quality emissions, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during construction, and potential short-term impacts are considered less than significant.

As demonstrated in Tables 6 and 7, operational emissions from the proposed project would not exceed the threshold for any criteria pollutants and therefore would not result in exposure of a sensitive receptor to substantial pollutant concentrations. Therefore, impacts related to substantial pollutant concentration for operation would be less than significant. No mitigation measures would be required.

Screening Health Risk Assessment

ARB recommends avoiding siting of new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, and near distribution centers, rail yards, ports, refineries, and other sources of TACs. The siting of the proposed project is consistent with regulatory

recommendations on land use compatibility. The analysis of localized pollutants for the operations phase prepared in Response 3(b) also found that on-site and off-site project-related emissions would not significantly impact local air quality.

All gasoline retail service stations under SCAQMD jurisdiction have Phase I and II vapor recovery systems to control gasoline emissions. Phase I vapor recovery refers to the collection of gasoline vapors displaced from storage tanks when cargo tank trucks make gasoline deliveries. Phase II vapor recovery systems control the vapors displaced from the vehicle fuel tanks during refueling. In addition, all gasoline is stored underground with valves installed on the tank vent pipes to further control gasoline emissions. Emissions from gasoline transfer and dispensing mainly occur during loading, breathing, refueling, and spillage.

The California Air Pollution Control Officers Association (CAPCOA) has developed industrywide risk assessment guidelines for gasoline service stations (CAPCOA, 1997). The SCAQMD performed modeling following CAPCOA guidelines to estimate cancer risks from the industrywide source category of retail gasoline dispensing facilities. The SCAQMD's *Emission Inventory and Risk Assessment Guidelines for Gasoline Dispensing Stations* provides screening tables to determine the cancer risk based on the nearest residential and occupational location. The purpose of this analysis is to further examine the project site for actual health risk associated with the location of new housing and commercial office on the project site. The SCAQMD air quality permit condition for the Chevron gas station limits the annual amount of gasoline dispense at maximum of 6.3 million gallons per year. Using the average annual gasoline dispense of 3.8 million gallons per year, residential cancer risk at 30 meters uphill slope distance would be 8 in one million, and occupational cancer risk would be 2 in one million. Therefore, impacts related to substantial pollutant concentration would be less than significant. No mitigation measures would be required.

Lastly, the proposed project would not produce the volume of traffic required to generate a CO hotspot, based on the traffic information provided by the Traffic Impact Analysis Report prepared for the project.

Impacts to sensitive receptors would be less than significant, and no mitigation measures would be required.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact.

Odor Analysis

SCAQMD Rule 402 regarding nuisances states: "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." Heavy-duty equipment in the project area during construction would emit odors. However, the activity would cease to occur after construction is completed. Project construction would employ best available control measures as

required by SCAQMD Rule 1113 for architectural coatings and SCAQMD Rule 1120 for asphalt pavements, and would not result in VOC emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, nor result in a cumulatively considerable net increase of VOC. Compliance with these rules would ensure odor impacts associated with construction activities would remain less than significant.

The proposed uses are not anticipated to emit any objectionable odors during the operations phase of the project. The type of facilities that are considered to have objectionable odors include wastewater treatment plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities. Residential developments are not associated with foul odors. Therefore, objectionable odors posing a health risk to potential on-site and existing off-site uses would not occur as a result of the proposed project.

The proposed land uses are not typically considered to have objectionable odors. While the nearby gas station could potentially emit odors, or construction activities may also generate odors, these would be low in concentration. Therefore, impacts to odors would be less than significant, and no mitigation measures would be required.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact.

GREENHOUSE GAS EMISSIONS

This section describes the regulatory framework for the evaluation of GHG emissions. This section also provides an analysis of the GHG emissions from construction and operational activities associated with the proposed project. Results indicate project emissions would be less than significant as described below.

Regulatory Settings

Federal Regulations/Standards

The United States has historically had a voluntary approach to reducing greenhouse gas (GHG) emissions. However, on April 2, 2007, the United States Supreme Court ruled that the Environmental Protection Agency (EPA) has the authority to regulate carbon dioxide (CO₂) emissions under the Clean Air Act (CAA). While there currently are no adopted federal regulations for the control or reduction of GHG emissions, the EPA commenced several actions in 2009 that are required to implement a regulatory approach to GHG.

On September 30, 2009, the EPA announced a proposal that focuses on large facilities emitting over 25,000 tons of GHG emissions per year. These facilities would be required to obtain permits that would demonstrate they are using the best practices and technologies to minimize GHG emissions.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (i.e., CO₂, methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆)) constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to GHG. This EPA action does not impose any requirements on industry or other entities. However, the findings are a prerequisite to finalizing the GHG emission standards for light-duty vehicles discussed below.

On April 1, 2010, the EPA and the United States Department of Transportation's (USDOT) National Highway Traffic Safety Administration (NHTSA) announced a final joint rule to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. The EPA has finalized the first-ever national GHG emissions standards under the CAA, and the NHTSA has finalized Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act on August 16, 2016. The EPA GHG standards require these vehicles to meet an estimated combined average emissions level of 250 grams of CO₂ per mile in model year 2016, equivalent to 35.5 miles per gallon. On April 30, 2020, the EPA and Department of Transportation issued a Safer Affordable Fuel-Efficient (SAFE) Vehicles Final Rule, which would freeze the fuel economy goals to the 2021 target of 37 mpg for model years 2021 through 2026.

State Regulations/Standards

California Climate Action Milestones. In 1988, AB 4420 directed the California Energy Commission (CEC) to report on “how global warming trends may affect the State’s energy supply and demand, economy, environment, agriculture, and water supplies” and offer “recommendations for avoiding, reducing and addressing the impacts.” This marked the first statutory direction to a State agency to address climate change.

Assembly Bill 32 and the California Air Resources Board’s Climate Change Scoping Plan. In 2006, the State Legislature passed the California Global Warming Solutions Act of 2006 (i.e., Assembly Bill 32 (AB 32)), which created a comprehensive, multiyear program to reduce GHG emissions in California. Under AB 32, the ARB is required to adopt regulations requiring the reporting and verification of statewide GHG emissions from specified sources. This program is used to monitor and enforce compliance with established standards. The ARB also is required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 relatedly authorized the ARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, the ARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted.

AB 32 required the ARB to develop a scoping plan that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. In 2007, the ARB approved a limit on the statewide GHG emissions level for year 2020 consistent with the determined 1990 baseline (427 million metric tons of carbon dioxide equivalents (MMTCO₂e)). ARB’s adoption of this limit is in accordance with Health Safety Code (HSC) Section 38550.

Further, in 2008, ARB adopted the *Climate Change Scoping Plan: A Framework for Change* (Scoping Plan) in accordance with HSC Section 38561. The Scoping Plan establishes an overall framework for the measures that will be adopted to reduce California's GHG emissions for various emission sources/sectors to 1990 levels by 2020. The Scoping Plan evaluates opportunities for sector-specific reductions, integrates all ARB and Climate Action Team (CAT) early actions (CalEPA 2010) and additional GHG reduction features by both entities, identifies additional measures to be pursued as regulations, and outlines the role of a cap-and-trade program. The key elements of the Scoping Plan include the following (ARB 2008):

- Expanding and strengthening existing energy-efficiency programs as well as building and appliance standards;
- Achieving a statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system and caps sources contributing 85 percent of California's GHG emissions;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's Clean Car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential (GWP) gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In the Scoping Plan, the ARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 28.5 percent from the otherwise projected 2020 emissions level; i.e., those emissions that would occur in 2020, absent GHG-reducing laws and regulations (referred to as "Business As Usual" [BAU]). For purposes of calculating this percentage reduction, the ARB assumed that all new electricity generation would be supplied by natural gas plants, no further regulatory action would affect vehicle fuel efficiency, and building energy-efficiency codes would be held at 2005 standards.

In the 2011 Final Supplement to the Scoping Plan's Functional Equivalent Document, the ARB revised its estimates of the projected 2020 emissions level in light of the economic recession and the availability of updated information about GHG reduction regulations. Based on the new economic data, the ARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of 21.7 percent (down from 28.5 percent) from the BAU conditions. When the 2020 emissions level projection also was updated to account for newly implemented regulatory measures, including Pavley I (model years 2009–2016) and the RPS (12 percent to 20 percent), the ARB determined that achieving the 1990 emissions level in 2020 would require a reduction in GHG emissions of 16 percent (down from 28.5 percent) from the BAU conditions.

More recently, in 2014, the ARB adopted the *First Update to the Climate Change Scoping Plan: Building on the Framework* (First Update). The stated purpose of the First Update is to “highlight California’s success to date in reducing its GHG emissions and lay the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80% below 1990 levels by 2050.” The First Update found that California is on track to meet the 2020 emissions reduction mandate established by AB 32. It also noted that California could reduce emissions further by 2030 to levels squarely in line with those needed to stay on track to reduce emissions to 80 percent below 1990 levels by 2050 if the State realizes the expected benefits of existing policy goals (ARB 2014).

In conjunction with the First Update, the ARB identified “six key focus areas comprising major components of the state’s economy to evaluate and describe the larger transformative actions that will be needed to meet the state’s more expansive emission reduction needs by 2050.” Those six areas are (1) energy; (2) transportation (vehicles/equipment, sustainable communities, housing, fuels, and infrastructure); (3) agriculture; (4) water; (5) waste management; and (6) natural and working lands. The First Update identifies key recommended actions for each sector that will facilitate achievement of EO S-3-05’s 2050 reduction goal.

Based on the ARB’s research efforts presented in the First Update, it has a “strong sense of the mix of technologies needed to reduce emissions through 2050.” Those technologies include energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings and industrial machinery; decarbonizing electricity and fuel supplies; and the rapid market penetration of efficient and clean energy technologies.

As part of the First Update, the ARB recalculated the State’s 1990 emissions level using more recent GWPs identified by the IPCC. Using the recalculated 1990 emissions level (431 MMTCO₂e) and the revised 2020 emissions level projection identified in the 2011 Final Supplement, the ARB determined that achieving the 1990 emissions level by 2020 would require a reduction in GHG emissions of approximately 15 percent (instead of 28.5 percent or 16 percent) from the BAU conditions.

On October 27, 2017, the ARB released the draft *2017 Climate Change Scoping Plan Update (Second Update)* for public review and comment (ARB 2017). This update proposes ARB’s strategy for achieving the State’s 2030 GHG target as established in SB 32 (discussed below), including continuing the Cap-and-Trade Program through 2030, and includes a new approach to reduce GHGs from refineries by 20 percent. The Second Update incorporates approaches to cutting short-lived climate pollutants (SLCPs) under the *Short-Lived Climate Pollutant Reduction Strategy* (SLCP Reduction Strategy) (a planning document that was adopted by the ARB in March 2017), and acknowledges the need for reducing emissions in agriculture and highlights the work underway to ensure that California’s natural and working lands increasingly sequester carbon. During development of the Second Update, the ARB held a number of public workshops in the natural and working lands, agriculture, energy and transportation sectors to inform development of the 2030 Scoping Plan Update (ARB 2016c). When discussing project-level GHG emissions reduction actions and thresholds, the Second Update states “achieving no net increase in GHG emissions is the correct overall objective, but it may not be appropriate or feasible for every development project. An inability to mitigate a project’s GHG emissions to zero does not necessarily imply a substantial

contribution to the cumulatively significant environmental impact of climate change under CEQA.” It is expected that the *Second Update* will be considered by the ARB’s Governing Board in late no later than January 2018, as required under AB 398.

Executive Order B-30-15. EO B-30-15 (April 2015) identified an interim GHG reduction target in support of targets previously identified under EO S-3-05 and AB 32. EO B-30-15 sets an interim target goal of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 to keep California on its trajectory toward meeting or exceeding the long-term goal of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050, as set forth in EO S-3-05. To facilitate achievement of this goal, EO B-30-15 calls for an update to the ARB’s Scoping Plan to express the 2030 target in terms of MMTCO₂e. The EO also calls for State agencies to continue to develop and implement GHG emission reduction programs in support of the reduction targets. Sector-specific agencies in transportation, energy, water, and forestry were required to prepare GHG reduction plans by September 2015, followed by a report on action taken in relation to these plans in June 2016. EO B-30-15 does not require local agencies to take any action to meet the new interim GHG reduction target.

Senate Bill 32 and Assembly Bill 197. SB 32 and AB 197 (enacted in 2016) are companion bills that set a new statewide GHG reduction targets; make changes to the ARB’s membership; increase legislative oversight of the ARB’s climate change based activities; and expand dissemination of GHG and other air quality related emissions data to enhance transparency and accountability.

More specifically, SB 32 codified the 2030 emissions reduction goal of EO B-30-15 by requiring the ARB to ensure that statewide GHG emissions are reduced to 40 percent below 1990 levels by 2030. AB 197 established the Joint Legislative Committee on Climate Change Policies, consisting of at least three members of the Senate and three members of the Assembly, in order to provide ongoing oversight over implementation of the State’s climate policies. AB 197 also added two members of the Legislature to the ARB as nonvoting members; requires the ARB to make available and update (at least annually via its website) emissions data for GHGs, criteria air pollutants, and TACs from reporting facilities; and requires the ARB to identify specific information for GHG emissions reduction measures when updating the Scoping Plan.

Building Energy. *24 CCR Part 6.* Title 24 of the CCR was established in 1978 and serves to enhance and regulate California’s building standards. While not initially promulgated to reduce GHG emissions, Part 6 of Title 24 specifically establishes Building Energy Efficiency Standards that are designed to ensure new and existing buildings in California achieve energy efficiency and preserve outdoor and indoor environmental quality. The CEC is required by law to adopt standards every 3 years that are cost effective for homeowners over the 30-year lifespan of a building. These standards are updated to consider and incorporate new energy-efficient technologies and construction methods. As a result, these standards save energy, increase electricity supply reliability, increase indoor comfort, avoid the need to construct new power plants, and help preserve the environment.

24 CCR Part 11. In addition to the CEC’s efforts, in 2008, the California Building Standards Commission adopted the nation’s first green building standards. The California Green Building Standards Code (CALGreen) (24 CCR, Part 11) establishes minimum mandatory standards as well as

voluntary standards pertaining to the planning and design of sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and interior air quality. The CALGreen took effect in January 2011 and instituted mandatory minimum environmental performance standards for all ground-up, new construction of commercial, low-rise residential and State-owned buildings and schools and hospitals. The 2019 CALGreen became effective on January 1, 2020. The mandatory standards require the following (24 CCR Part 11):

- A reduction in indoor water use through compliance with specified flow rates for plumbing fixtures and fittings;
- A reduction in outdoor water use through compliance with a local water-efficient landscaping ordinance or the California Department of Water Resources' (DWR) Model;
- Water Efficient Landscape Ordinance;
- A diversion of at least 65 percent of construction and demolition waste from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Inclusion of electric vehicle charging stations or designated spaces capable of supporting future charging stations; and
- Low-pollutant emitting exterior and interior finish materials, such as paints, carpets, vinyl flooring, and particle boards.

The CALGreen includes voluntary efficiency measures that are provided at two separate tiers and implemented at the discretion of local agencies and applicants. The CALGreen's Tier 1 standards call for a 15 percent improvement in energy requirements; stricter water conservation; 65 percent diversion of construction and demolition waste; 10 percent recycled content in building materials; 20 percent permeable paving; 20 percent cement reduction; and cool/solar-reflective roofs. The CALGreen's more-rigorous Tier 2 standards call for a 30 percent improvement in energy requirements, stricter water conservation, 75 percent diversion of construction and demolition waste, 15 percent recycled content in building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar-reflective roofs.

The CPUC, CEC, and ARB also have a shared, established goal of achieving zero net energy (ZNE) for new construction in California. The key policy timelines include the following: (1) all new residential construction in California will be ZNE by 2020, and (2) all new commercial construction in California will be ZNE by 2030.¹ As most recently defined by the CEC in its 2015 *Integrated Energy Policy Report*, a ZNE-code building is "one where the value of the energy produced by on-site renewable energy resources is equal to the value of the energy consumed annually by the building" using the CEC's Time Dependent Valuation metric.

¹ See, for example, CPUC's California's Zero Net Energy Policies and Initiatives. It is expected that achievement of the zero net energy goal will occur via revisions to the Title 24 standards.

Regional

The SCAQMD convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from stakeholder groups that will provide input to the SCAQMD staff on developing GHG CEQA significance thresholds. On December 5, 2008, the SCAQMD Governing Board adopted interim GHG significance thresholds for projects where the SCAQMD is lead agency. The SCAQMD has not adopted guidance for CEQA projects under other lead agencies.

Local

The City of Torrance in coordination with South Bay Cities Council of Governments (SBCCOG), has developed a Climate Action Plan (CAP) to reduce GHG emissions within the City and thereby reduce the City's contribution to global climate change concerns. However, this CAP is not a Qualified GHG Emissions Reduction Plan under CEQA per the requirements outlined in the CEQA Guidelines, Section 15183.5(D); therefore, no CEQA document can tier from the City CAP.. Therefore, the City of Torrance accepts the Tier 3 quantitative interim significance thresholds recommended by the SCAQMD for commercial, industrial, mixed-use, and industrial development projects as follows:

- Industrial Projects: 10,000 metric tons of carbon dioxide equivalents (MT CO₂e) per year.
- Commercial, Residential, and Mixed-Use Projects (including industrial parks, warehouses, etc.): 3,000 MT CO₂e per year.

GREENHOUSE GAS EMISSIONS ANALYSIS

This section provides an analysis of GHG emissions associated with the project.

Generation of Greenhouse Gas Emissions

Climate change is a global issue and is described in the context of the cumulative environment. Therefore, the project is considered in the context of multiple sectors and the combined efforts of many industries, including development. The State of California Governor's Office of Planning and Research (OPR) Technical Advisory titled *CEQA and Climate Change: Addressing Climate Change through California Environmental Quality Act Review* states that "public agencies are encouraged but not required to adopt thresholds of significance for environmental impacts. Even in the absence of clearly defined thresholds for GHG emissions, the law requires that such emissions from CEQA projects must be disclosed and mitigated to the extent feasible whenever the lead agency determines that the project contributes to a significant, cumulative climate change impact" (OPR 2008, p. 4). Furthermore, the advisory document indicates in the third bullet item on page 6 that "in the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a 'significant impact,' individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice."

On December 5, 2008 the SCAQMD Governing Board adopted an Interim quantitative GHG Significance Threshold for industrial projects for which the SCAQMD is the Lead Agency (e.g., stationary source permit projects, rules, plans, etc.) of 10,000 metric tons (MT) of carbon dioxide

equivalent (CO₂e) per year. In September 2010, the Working Group released revisions which recommended a threshold of 3,000 MT of CO₂e for residential projects. This 3,000 MT/year recommendation has been used as a guideline for this analysis.

GWPs are used to compare the abilities of different greenhouse gases (GHGs) to trap heat in the atmosphere. GWPs are based on the radiative efficiency (heat-absorbing ability) of each gas relative to that of CO₂. The GWP provides a construct for converting emissions of various gases into a common measure, which allows climate analysts to aggregate the radiative impacts of various GHGs into a uniform measure denominated in carbon or CO₂e. The primary greenhouse gas generated by the project would be CO₂. The following analysis represents an estimate of the project’s GHG emissions through the quantification of CO₂ emissions, which accounted for approximately 84 percent of the State’s total GHG emissions in 2004. CH₄ and N₂O accounted for 5.7 and 6.8 percent, respectively. Therefore, the estimation of CO₂, CH₄, and N₂O from the most important construction and operation-related sources is illustrative of much of the project’s contribution to GHG emissions. The following project activities were analyzed for their contribution to global CO₂ emissions.

Construction Greenhouse Gas Emissions

Construction activities produce combustion emissions from various sources, such as site grading, utility engines, on-site heavy-duty construction vehicles, and equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

See the CalEEMod modeling output in Attachment A for details. The construction phase in Table 8 shows GHG emissions from equipment exhaust and energy use. Results indicate that project construction would generate approximately 139 MTCO₂e per year. Amortized over 30 years, the total construction emissions would generate approximately 4.6 MTCO₂e per year.

Table 8: Estimated Construction Greenhouse Gas Emissions

Construction Phase	Peak Annual Emissions (mt/yr)			Total Emissions (MTCO ₂ e)
	CO ₂	CH ₄	N ₂ O	
2018	139	0.04	0	139
Total Construction Emissions				139
Total Construction Emissions Amortized over 30 years				4.6

Source: Compiled by LSA (July 2020).

CO₂ = carbon dioxide

CH₄ = methane

N₂O = nitrous oxide

mt/yr = metric tons per year

CO₂e = carbon dioxide equivalent

MTCO₂e = metric tons of carbon dioxide equivalent

Operational Greenhouse Gas Emissions

Long-term operation of the proposed project would generate GHG emissions from area and mobile sources and indirect emissions from stationary sources associated with energy consumption. Mobile-source emissions of GHGs would include project-generated vehicle trips associated with on-site facilities and customers/visitors to the project site. Area-source emissions would be associated with activities such as landscaping and maintenance of proposed land uses, natural gas for heating,

and other sources. Increases in stationary-source emissions would also occur at off-site utility providers as a result of demand for electricity, natural gas, and water by the proposed uses.

The GHG emission estimates presented in Table 9 show the emissions associated with the level of development envisioned by the proposed project at opening. Attachment A includes the model outputs. Area sources include architectural coatings, consumer products, and landscaping. Energy sources include natural gas consumption for space heating.

Table 9: Estimated Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT/yr)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
Construction emissions amortized over 30 years	4.6	<0.01	0	4.6
Operational Emissions				
Area Sources	0	<0.01	<0.01	0
Energy Sources	28	<0.01	<0.01	28
Mobile Sources	141	<0.01	0	141
Waste Sources	0	0.02	0	1
Water Usage	5	0.03	<0.01	7
Total Project Emissions	180	0.06	0	182
SCAQMD GHG Threshold	—	—	—	3,000
Significant Emissions?	—	—	—	No

Source: Compiled by LSA (July 2020).

Note: Numbers in table may not appear to add up correctly due to rounding of all numbers to two decimal places.

MT/yr = metric tons per year

CH₄ = methane

N₂O = nitrous oxide

CO₂e = carbon dioxide equivalent

CO₂ = carbon dioxide

As shown in Table 9, the project will result in a net increase of 182 MTCO₂e per year. The emissions level of 182 MTCO₂e per year is less than the SCAQMD Tier 3 threshold of 3,000 MTCO₂e per year for mixed-use projects; therefore, project-level and cumulative GHG emissions would be less than significant.

Conclusion for Greenhouse Gas Impacts

As shown in Tables 8 and 9, GHG emissions from construction and operational activities associated with the proposed project would be below the SCAQMD thresholds. Therefore, project-related construction and operational GHG emissions would be less than significant.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact.

Consistency with Applicable Plans

The project would contribute to cumulative increases in GHG emissions over time in the absence of policy intervention.

The AB 32 Scoping Plan provides the basis for policies that would reduce cumulative GHG emissions within California to 1990 levels by 2020. As a result, the project is judged against its consistency with the AB 32 Scoping Plan to determine whether it would result in adverse cumulative impacts to global change. Because the Scoping plan is generally focused on statewide initiatives that reduce GHG emissions from energy, mobile, and area sources, its provisions are generally not relevant for the evaluation of individual development projects.

In the draft 2017 Climate Change Scoping Plan (Second Update), ARB generally described the type of activities required to achieve the 2030 target: (1) energy demand reduction through efficiency and activity changes; (2) large-scale electrification of on-road vehicles; (3) buildings and industrial machinery; (4) decarbonizing electricity and fuel supplies; (5) and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately.” (ARB 2017) The draft 2017 Climate Change Scoping Plan “lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 40 percent below 1990 levels by 2030. Many of the emission reduction strategies recommended by CARB would serve to reduce the project’s post-2020 emissions level to the extent applicable by law:

- **Energy Sector:** Improvements in California’s appliance and building energy efficiency programs and initiatives, such as the State’s zero net energy building goals would serve to reduce the project’s emissions level. Increasing California’s renewable resource portfolio would serve to reduce the project’s emissions level. (ARB 2017)
- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the project’s emissions level. (ARB 2017)
- **Water Sector:** The project’s emissions level would be reduced as a result of further desired enhancements to water conservation technologies. (ARB 2017)
- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste would beneficially reduce the project’s emissions level. (ARB 2017)

As discussed above, the project is required to use green building features under Title 24 as a framework for achieving GHG emissions reductions, as recommended by ARB’s *Climate Change Scoping Plan*. The project’s use of green building features to conserve energy makes the project consistent with AB 32 and the *Climate Change Scoping Plan*. Based on this evaluation, the project would be consistent with all feasible and applicable strategies recommended in the AB 32 Scoping Plan.

Nevertheless, the project would be consistent with the Plan’s strategies focused on building energy efficiency, green building practices, reducing solid waste, and promoting water conservation programs. Under Ordinance No 3806, the Green Building Code (Chapter 13 of the City of Torrance Municipal Code), incorporated by reference the mandatory requirements of the 2016 California

Green Building Standards Code (CALGreen). The proposed Project would comply with performance-based standards included in the Green Building Code (e.g., the 2016 Building Energy Efficiency Standards). As a result, the project does not conflict with the AB 32 Scoping Plan priorities.

In addition, the proposed residential land uses would neither conflict with the SCAQMD's 2016 AQMP nor the 2016 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS). While the project would increase population in the City of Torrance by approximately 36 persons, this increase is within the population projections stated in the City of Torrance's 2009 General Plan, which planned for a development capacity of up to 17,000 new persons and 3,100 dwelling units in the incorporated areas of the City (General Plan 2009). As such, the project is consistent with the population and housing growth projections that were integrated into the Southern California Association of Governments to identify future air quality emissions that must be mitigated through the 2016 AQMP and 2016 RTP/SCS. The RTP/SCS accommodates up to 162,775 persons by 2030 in the City of Torrance, along with 61,534 households by 2030 respectively. This dataset included the 2010 Census population and housing data, along with the 2010 Employment Development Department's benchmark data. It should be noted that the regional growth forecasts are made up of county-level control totals; as such, the consistency of future growth is judged at a county level, not at a jurisdiction level like the City of Torrance.

As the proposed project would be operational post-2020, the City's current adopted General Plan is not yet updated to be in compliance with the State 2017 Scoping Plan, which includes measures to achieve SB 32's goal of the statewide targets to reduce GHG emissions to 40 percent below 1990 levels by 2030. The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target. These measures build upon those identified in the first update to the Scoping Plan (2013). Although a number of these measures are currently established as policies and measures, most of the 2017 Scoping Plan measures have not yet been formally proposed or adopted by the City for local discretionary development projects. It is expected that these measures or similar actions to reduce GHG emissions will be adopted as required to achieve statewide GHG emissions targets.

As it currently stands, the applicable building requirements of the 2019 Title 24 Building Energy Efficiency Standards and California Green Building Standards (CALGreen Code) would apply. The CALGreen Code does not prevent a local jurisdiction from adopting a more stringent code as State law provides methods for local enhancements. The Code 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. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official. The project would meet the 2017 Scoping Plan requirement as part of its compliance the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code. Table 10 analyzes the proposed project's consistency with the Scoping Plan.

Table 10: Scoping Plan Consistency Analysis

Scoping Plan Measure (Supporting Measures ¹)	Project Consistency
Cap-and-Trade Program	Not Applicable. These programs involve capping emissions from large-scale electricity generation, industrial facilities, and broad scoped fuels. Caps do not directly affect light industrial or smaller-scale industrial projects.
Light-Duty Vehicle Standards (T-1)	Not Applicable. This is a statewide measure establishing vehicle emissions standards
Energy Efficiency (E-1, E-2, CR-1, CR-2)	Consistent. The project would include a variety of building, water, and solid waste efficiencies consistent with 2019 California Green Building Standards Code requirements.
Renewables Portfolio Standard (E-3)	Not Applicable. Establishes the minimum statewide renewable energy mix.
Low Carbon Fuel Standard (T-2)	Not Applicable. Establishes reduced carbon intensity of transportation fuels.
Regional Transportation-Related GHG Targets (T-3)	Not Applicable. This is a statewide measure and is not within the purview of the project.
Vehicle Efficiency Measures (T-4)	Not Applicable. Identifies measures such as minimum tire-fuel efficiency, lower friction oil, and reduction in air conditioning use.
Goods Movement (T-5, T-6)	Not Applicable. Identifies measures to improve goods movement efficiencies such as advanced combustion strategies, friction reduction, waste heat recovery, and electrification of accessories. While these measures are yet to be implemented and would be voluntary, the project would not interfere with their implementation.
Million Solar Roofs Program (E-4)	Not Applicable. The Million Solar Roofs Program sets a goal for use of solar systems for residential homes throughout the State as a whole.
Medium- & Heavy-Duty Vehicles (T-7, T-8)	Consistent. Medium- and heavy-duty trucks and trailers hauling materials to and from the proposed project would be subject to aerodynamic and hybridization requirements as established by the ARB; no feature of the project would interfere with implementation of these requirements and programs.
Industrial Emissions (I-1 through I-5)	Not Applicable. These measures are applicable to large industrial facilities (greater than 500,000 MTCO ₂ E/yr) and other intensive uses such as refineries.
High Speed Rail (T-9)	Not Applicable. Supports increased mobility choice.
Green Building Strategy (GB-1)	Consistent. The project would include a variety of building, water, and solid waste efficiencies consistent with 2019 California Green Building Standards Code requirements.
High Global Warming Potential Gases (H-1 through H-7)	Not Applicable. The proposed project would not include substantial sources of high GWP emissions and would comply with any future changes in air conditioning, fire protection suppressant, and other requirements.
Recycling and Waste (RW-1 through RW-3)	Consistent. The project would be required recycle a minimum of 50 percent from construction activities and self-storage operations per State and County requirements.
Sustainable Forests (F-1)	Not Applicable. The project is a mixed-use development on an undeveloped open space area.
Water (W-1 through W-6)	Consistent. The project would include use of low-flow fixtures and efficient landscaping per State requirements.
Agriculture (A-1)	Not Applicable. The project is a mixed-use development on an undeveloped open space area.

Source: Compiled by LSA Associates, Inc. (July 2020).

Note: 1. California Air Resources Board, Appendix B Status of Initial Scoping Plan Measures.

In summary, the proposed project facility would not conflict with any of the provisions of the Scoping Plan and in fact supports five of the action categories through energy efficiency, water conservation, recycling, and landscaping.

SB 32 Consistency

SB 32 requires the State to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving Executive Order S-3-05, which sets a statewide GHG reduction target of 80 percent below 1990 levels by 2050.

The compliance with the 2019 Title 24 Building Energy Efficiency Standards and CALGreen Code would demonstrate that the proposed project is consistent with the GHG reduction actions/strategies outlined in the 2017 Scoping Plan. As a result, the proposed project would not interfere with the State’s implementation of: (i) Executive Order B-30-15 and SB 32’s target of reducing statewide GHG emissions to 40 percent below 1990 levels by 2030 or (ii) Executive Order S-3-05’s target of reducing statewide GHG emissions to 80 percent below 1990 levels by 2050, as it does not interfere with the State’s implementation of GHG reduction plans described in the 2017 Scoping Plan.

Regional Transportation Plan/Sustainable Communities Strategy

The SCAG region was home to about 18.3 million people in 2012 and currently includes approximately 5.9 million homes and 7.4 million jobs. By 2040, the integrated growth forecast projects that these figures will increase by 3.8 million people, with nearly 1.5 million more homes and 2.4 million more jobs. The 2016 RTP/SCS is the region’s transportation and sustainability investment strategy for protecting and enhancing the region’s quality of life and economic prosperity through this period. The 2016 RTP/SCS is also expected to help California reach its GHG reduction goals, with reductions in per capita transportation emissions of 9 percent by 2020 and 16 percent by 2035. In addition, the 2016 RTP/SCS GHG emissions reduction trajectory shows that more aggressive GHG emissions reductions are projected for 2040. The 2016 RTP/SCS would result in an estimated 8 percent decrease in per capita GHG emissions by 2020, 18 percent decrease in per capita GHG emissions by 2035, and 21 percent decrease in per capita GHG emissions by 2040. By meeting and exceeding the SB 375 targets for 2020 and 2035, as well as achieving an approximately 21 percent decrease in per capita GHG emissions by 2040, the 2016 RTP/SCS is expected to fulfill and exceed its portion of SB 375 compliance with respect to meeting the California’s GHG emission reduction goals.

At the regional level, the 2016 RTP/SCS is an applicable plan adopted for the purpose of reducing GHGs. Generally, projects are consistent with the provisions and general policies of applicable City and regional land use plans and regulations, such as SCAG’s SCS, if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals. Therefore, the proposed project would be consistent with the GHG reduction-related actions and strategies contained in the 2016 RTP/SCS. Table 11 analyzes the proposed project’s consistency with the RTP/SCS goals is analyzed in detail.

Table 11: Southern California Association of Governments RTP/SCS Goals

SCAG Goal Measures	Project Consistency
Goal 1: Align the plan investments and policies with improving regional	Not Applicable: This is not a project-specific policy and is therefore not applicable for the commercial land uses.

Table 11: Southern California Association of Governments RTP/SCS Goals

SCAG Goal Measures	Project Consistency
economic development and competitiveness.	
Goal 2: Maximize mobility and accessibility for all people and goods in the region.	<p>Consistent: Improvements to the transportation network in Torrance are developed and maintained to meet the needs of local and regional transportation and to ensure efficient mobility. A number of regional and local plans and programs are used to guide development and maintenance of transportation networks, including, but not limited to:</p> <ul style="list-style-type: none"> • Los Angeles County Congestion Management Program - Metro • Caltrans Traffic Impact Studies Guidelines • Caltrans Highway Capacity Manual • SCAG RTP/SCS
Goal 3: Ensure travel safety and reliability for all people and goods in the region.	<p>Consistent: All modes of transit in Torrance are required to follow safety standards set by corresponding regulatory documents. Pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of Torrance, County of Los Angeles) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists must follow safety standards established for the local and regional plans.</p>
Goal 4: Preserve and ensure a sustainable regional transportation system.	<p>Consistent: All new roadway developments and improvements to the existing transportation network must be assessed with some level of traffic analysis (e.g., traffic assessments or traffic impact studies) to determine how the developments would affect existing traffic capacities and to determine the needs for improving future traffic capacities.</p>
Goal 5: Maximize the productivity of our transportation system.	<p>Consistent: The local and regional transportation system would be improved and maintained to encourage efficiency and productivity. The City's Public Works and Utility Department oversees the improvement and maintenance of all aspects of the public right-of-way on an as-needed basis. The City also strives to maximize productivity of the region's public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of Torrance.</p>
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	<p>Consistent: The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy reducing techniques. For example, development projects are required to comply with the provisions of the California Building and Energy Efficiency Standards and the Green Building Standards Code (CALGreen). The City also strives to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region's public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of Torrance.</p>
Goal 7: Actively encourage and create incentives for energy efficiency, where possible.	<p>Not Applicable: This is not a project-specific policy and is therefore not applicable.</p>
Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	<p>Consistent: See response to RTP/SCS Goal 6.</p>
Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	<p>Consistent: The City of Torrance monitors existing and newly constructed roadways and transit routes to determine the adequacy and safety of these systems. Other local and regional agencies (e.g., Los Angeles County Metro Transportation Authority, Caltrans, SCAG) work with the City to manage these systems. Security situations involving roadways and evacuations would be</p>

Table 11: Southern California Association of Governments RTP/SCS Goals

SCAG Goal Measures	Project Consistency
	addressed in the County of Los Angeles’ emergency management protocols (e.g., the Los Angeles County Emergency Management Division’s Emergency Operations Center) developed in accordance with the state and federal mandated emergency management regulations.

Source: Compiled by LSA Associates, Inc. (July 2020).

SCAG = Southern California Association of Governments

RTP/SCS = Regional Transportation Plan/Sustainable Communities Strategy

CALGreen = California Green Building Standards Code

Implementing SCAG’s RTP/SCS will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emission reduction targets. The proposed project would provide an infill mixed commercial and service development situated near existing local bus lines and stops. As shown, the proposed project would in no way conflict with the stated goals of the RTP/SCS; therefore, the proposed project would not interfere with SCAG’s ability to achieve the region’s year 2020 and post-2020 mobile source GHG reduction targets outlined in the 2016 RTP/SCS, and it can be assumed that regional mobile emissions will decrease in line with the goals of the RTP/SCS. The proposed project would support the goals of SCAG’s 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to reduce per capita passenger vehicle GHG emissions, and would not conflict with the RTP/SCS.

Project Consistency with the City’s CAP

The City, in coordination with SBCCOG, has developed a CAP to reduce GHG emissions within the City and thereby reduce the City’s contribution to global climate change concerns. However, this CAP is not a Qualified GHG Emissions Reduction Plan under CEQA per the requirements outlined in the CEQA Guidelines, Section 15183.5(d); therefore, no CEQA document can tier from the City CAP. While there are no mandatory GHG plans, policies, or regulations or finalized agency guidelines that would apply to implementation of the project, a description of the relevant plans with GHG reduction strategies is provided below.

The City CAP includes GHG reduction strategies in the sectors of land use and transportation, energy efficiency, solid waste, urban greening, and energy generation and storage, to reach the City’s GHG reduction targets (City of Torrance and SBCCOG 2017). The project would include several design features under Title 24 and 2019 California Green Building Standards Code requirements, which would result in reduced GHG emissions, consistent with the intent and strategies of the City CAP. Table 12 provides the project’s consistency with a few of the City CAP GHG reduction measures.

Table 12: Project Consistency with City CAP GHG Emission Reduction Measures

City CAP Measures	Project Consistency
Goal LUT: A – Accelerate the Market for EV Vehicles	Not Applicable: This is not a project-specific policy and is therefore not applicable to the project.
Goal LUT: B – Encourage Ride-Sharing	Not Applicable: This is not a project-specific policy and is therefore not applicable to the project.
Goal LUT: C – Encourage Transit Usage	Not Applicable: This is not a project-specific policy and is therefore not applicable to the project.

Table 12: Project Consistency with City CAP GHG Emission Reduction Measures

City CAP Measures	Project Consistency
Goal LUT: D – Adopt Active Transportation Initiatives	Not Applicable: This is not a project-specific policy and is therefore not applicable to the project.
Goal LUT: E– Organizational Strategies	Not Applicable: This is not a project-specific policy and is therefore not applicable to the project.
Goal LUT: F– Land Use Strategies	Consistent: This strategy encourages project to mix uses such as office and residential within the same development. The project would include a mixed use development.
Goal LUT: G – Digital Technology Strategies	Not Applicable: This is not a project-specific policy and is therefore not applicable.
Goal EE: A – Increase Energy Efficiency in Existing Residential Units	Not Applicable: Applies to existing residential projects and is therefore not applicable to the proposed project.
Goal EE: B – Increase Energy Efficiency in New Residential Developments	Consistent. The project would include a variety of green building, water, and solid waste efficiencies consistent with 2019 California Green Building Standards Code requirements.
Goal EE: C – Increase Energy Efficiency in Existing Commercial Units	Not Applicable: Applies to existing commercial projects and is therefore not applicable to the proposed project.
Goal EE: D – Increase Energy Efficiency in New Commercial Developments	Consistent. The project would include a variety of green building, water, and solid waste efficiencies consistent with 2019 California Green Building Standards Code requirements.
Goal EE: E – Increase Energy Efficiency Through Water Efficiency	Consistent. The project would include use of low-flow fixtures and efficient landscaping per City requirements.
Goal EE: F – Decrease Energy Demand Through Reducing Urban Heat Island Effect	Consistent. The project would comply with Title 24 or other local energy codes for cool roof reflective materials.
Goal EE: G – Participate in Education, Outreach, and Planning for Energy Efficiency	Not applicable.
Goal EE: H – Increase Energy Efficiency in Municipal Buildings	Not applicable. Applies to municipal buildings.
Goal EE: I – Increase Energy Efficiency in City Infrastructure	Not applicable. Applies to City.
Goal EE: J – Reduce Energy Consumption in the Long Term	Not applicable. Applies to City.
Goal SW: A – Increase Diversion and Reduction of Residential Waste	Consistent. The project would include the use of recyclable and green waste collection program.
Goal SW: B – Increase Diversion and Reduction of Commercial Waste	Consistent. The project would include the use of recyclable and green waste collection program.
Goal SW: C – Reduce and Divert Municipal Waste	Not applicable. Applies to City.
Goal UG: A – Increase and Maintain Urban Greening in the Community	Not Applicable: This is not a project-specific policy and is therefore not applicable.
Goal UG: B – Increase and Maintain Urban Greening in Municipal Facilities	Not Applicable: This is not a project-specific policy and is therefore not applicable.
Goal EGS: A – Support Energy Generation and Storage in the Community	Not Applicable: This is not a project-specific policy and is therefore not applicable.

Source: Compiled by LSA Associates, Inc. (July 2020).

Given the cumulative nature of global climate change, the project's less than significant impact on GHG emissions is also considered a less than significant cumulative impact on climate change.

The project GHG emissions include reductions associated with Statewide strategies that have been adopted since AB32. The proposed project would comply with these statewide GHG emissions reductions measures as they are statewide strategies. Therefore, the proposed program would not obstruct implementation of the CARB Scoping Plan.

As shown in Table 12, the proposed project would in no way conflict with the stated goals of the City's CAP; therefore, the proposed project would not interfere with City's ability to achieve the City's post-2020 GHG reduction targets outlined in the 2017 CAP, and it can be assumed that GHG emissions will decrease in line with the goals of the 2017 CAP. The proposed project would not conflict with the City's 2017 CAP.

Therefore, impacts to the applicable GHG plan will be less than significant, and no mitigation measures would be required.

Mitigation Measure: No mitigation is required.

Significance Determination: Less Than Significant Impact.

ATTACHMENT A
CALEEMOD OUTPUTS

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

24601 Hawthorne Blvd Mixed Use Project
Los Angeles-South Coast County, Winter

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	3.30	1000sqft	0.08	3,300.00	0
Other Non-Asphalt Surfaces	6.10	1000sqft	0.11	6,096.00	0
Parking Lot	36.00	Space	0.32	14,400.00	0
Apartments Mid Rise	11.00	Dwelling Unit	0.03	11,286.00	31

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	513	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

Project Characteristics - SCE CO2 Intensity Factor based on 2018 SCE Sustainability Report

Land Use - Project Specific Info from Ashai Design Consulting Corp. Oct 2019 - Lot acreage is 0.54

Construction Phase - Default construction schedule with anticipated January 2021 start date

Off-road Equipment -

Off-road Equipment - Additional aerial lifts, drill rigs, and cemet mixers for retaining walls and building construction

Off-road Equipment -

Off-road Equipment - additional backhoes, crawler tractors and grader for site grading

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Compliance with SCAQMD Rule 1113

Woodstoves - Non gas fireplaces allowed under SCAQMD jurisdiction areas

Area Coating - SCAQMD Rule 1113

Energy Use -

Construction Off-road Equipment Mitigation - ARB/EPA Tier 2 engine standard for exhaust and SCAQMD Rule 403 for fugitive dust control

Energy Mitigation - 2019 CALGreen codes would reduce building energy consumption by 30% or more.

Grading - Earthwork quantities: Cut 1,556 cy, and Fill 1,566cy = import 10 cy

Vehicle Trips - Trip generation rate

Water Mitigation - Project would utilized low-flow water fixtures and install water-efficient irrigation system

Area Mitigation - Rule 1113 requires 50 g/L paint

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate in reducing solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblFireplaces	NumberGas	9.35	0.00
tblFireplaces	NumberNoFireplace	1.10	0.00
tblFireplaces	NumberWood	0.55	0.00
tblGrading	AcresOfGrading	3.00	0.50
tblGrading	MaterialImported	0.00	10.00
tblLandUse	LandUseSquareFeet	6,100.00	6,096.00
tblLandUse	LandUseSquareFeet	11,000.00	11,286.00

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

tblLandUse	LotAcreage	0.14	0.11
tblLandUse	LotAcreage	0.29	0.03
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	513
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblWoodstoves	NumberCatalytic	0.55	0.00
tblWoodstoves	NumberNoncatalytic	0.55	0.00

2.0 Emissions Summary

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Energy	4.6100e-003	0.0398	0.0203	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2382	50.2382	9.6000e-004	9.2000e-004	50.5368
Mobile	0.1899	0.9566	2.5045	9.1200e-003	0.7792	7.7700e-003	0.7869	0.2085	7.2500e-003	0.2158		929.1590	929.1590	0.0488		930.3776
Total	0.5435	1.0069	3.4379	9.4200e-003	0.7792	0.0160	0.7951	0.2085	0.0155	0.2240	0.0000	981.0412	981.0412	0.0513	9.2000e-004	982.5985

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Energy	3.7800e-003	0.0326	0.0163	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543
Mobile	0.1899	0.9566	2.5045	9.1200e-003	0.7792	7.7700e-003	0.7869	0.2085	7.2500e-003	0.2158		929.1590	929.1590	0.0488		930.3776
Total	0.5427	0.9997	3.4339	9.3800e-003	0.7792	0.0154	0.7946	0.2085	0.0149	0.2234	0.0000	972.0124	972.0124	0.0511	7.6000e-004	973.5160

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.15	0.72	0.12	0.42	0.00	3.56	0.07	0.00	3.68	0.25	0.00	0.92	0.92	0.33	17.39	0.92

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/4/2021	5	1	
2	Grading	Grading	1/5/2021	1/6/2021	5	2	
3	Building Construction	Building Construction	1/7/2021	5/26/2021	5	100	
4	Paving	Paving	5/27/2021	6/2/2021	5	5	
5	Architectural Coating	Architectural Coating	6/3/2021	6/9/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0.43

Residential Indoor: 22,854; Residential Outdoor: 7,618; Non-Residential Indoor: 4,950; Non-Residential Outdoor: 1,650; Striped Parking Area: 1,230 (Architectural Coating – sqft)

OffRoad Equipment

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Graders	1	8.00	187	0.41
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Cement and Mortar Mixers	4	8.00	9	0.56

Trips and VMT

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	18.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520

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					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.3079	8.6185	5.8579	9.7300e-003		0.2405	0.2405		0.2405	0.2405	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.3079	8.6185	5.8579	9.7300e-003	0.2068	0.2405	0.4473	0.0223	0.2405	0.2629	0.0000	942.5842	942.5842	0.3049		950.2055

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3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520
Total	0.0238	0.0163	0.1841	5.4000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		53.6126	53.6126	1.5800e-003		53.6520

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2872	0.0000	6.2872	3.3389	0.0000	3.3389			0.0000			0.0000
Off-Road	3.3560	37.6038	18.8505	0.0433		1.6391	1.6391		1.5218	1.5218		4,177.9467	4,177.9467	1.1940		4,207.7959
Total	3.3560	37.6038	18.8505	0.0433	6.2872	1.6391	7.9263	3.3389	1.5218	4.8607		4,177.9467	4,177.9467	1.1940		4,207.7959

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3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2700e-003	0.1358	0.0334	3.8000e-004	8.7400e-003	4.2000e-004	9.1600e-003	2.4000e-003	4.0000e-004	2.8000e-003		41.5892	41.5892	2.9700e-003		41.6635
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.0901	0.1945	0.6962	2.3200e-003	0.2099	2.0500e-003	0.2120	0.0558	1.9000e-003	0.0577		234.5944	234.5944	8.6500e-003		234.8107

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4520	0.0000	2.4520	1.3022	0.0000	1.3022			0.0000			0.0000
Off-Road	1.4317	35.1842	24.7306	0.0433		0.9703	0.9703		0.9703	0.9703	0.0000	4,177.9467	4,177.9467	1.1940		4,207.7959
Total	1.4317	35.1842	24.7306	0.0433	2.4520	0.9703	3.4223	1.3022	0.9703	2.2725	0.0000	4,177.9467	4,177.9467	1.1940		4,207.7959

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.2700e-003	0.1358	0.0334	3.8000e-004	8.7400e-003	4.2000e-004	9.1600e-003	2.4000e-003	4.0000e-004	2.8000e-003		41.5892	41.5892	2.9700e-003		41.6635
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.0901	0.1945	0.6962	2.3200e-003	0.2099	2.0500e-003	0.2120	0.0558	1.9000e-003	0.0577		234.5944	234.5944	8.6500e-003		234.8107

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3440	13.6898	12.7569	0.0271		0.6197	0.6197		0.5747	0.5747		2,545.2550	2,545.2550	0.7788		2,564.7253
Total	1.3440	13.6898	12.7569	0.0271		0.6197	0.6197		0.5747	0.5747		2,545.2550	2,545.2550	0.7788		2,564.7253

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.4844	0.1404	1.2500e-003	0.0320	1.0200e-003	0.0330	9.2200e-003	9.8000e-004	0.0102		133.6728	133.6728	8.6300e-003		133.8885
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.1018	0.5432	0.8032	3.1900e-003	0.2332	2.6500e-003	0.2359	0.0626	2.4800e-003	0.0651		326.6780	326.6780	0.0143		327.0357

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0980	23.5562	16.8225	0.0271		0.7466	0.7466		0.7466	0.7466	0.0000	2,545.2550	2,545.2550	0.7788		2,564.7253
Total	1.0980	23.5562	16.8225	0.0271		0.7466	0.7466		0.7466	0.7466	0.0000	2,545.2550	2,545.2550	0.7788		2,564.7253

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0160	0.4844	0.1404	1.2500e-003	0.0320	1.0200e-003	0.0330	9.2200e-003	9.8000e-004	0.0102		133.6728	133.6728	8.6300e-003		133.8885
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.1018	0.5432	0.8032	3.1900e-003	0.2332	2.6500e-003	0.2359	0.0626	2.4800e-003	0.0651		326.6780	326.6780	0.0143		327.0357

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8891	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472

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	0.5717	9.4775	7.8279	0.0113		0.3472	0.3472		0.3472	0.3472	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7393	9.4775	7.8279	0.0113		0.3472	0.3472		0.3472	0.3472	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Winter

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472
Total	0.0858	0.0587	0.6629	1.9400e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		193.0052	193.0052	5.6800e-003		193.1472

3.6 Architectural Coating - 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					
Archit. Coating	18.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	18.5420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

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3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0191	0.0131	0.1473	4.3000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		42.8900	42.8900	1.2600e-003		42.9216
Total	0.0191	0.0131	0.1473	4.3000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		42.8900	42.8900	1.2600e-003		42.9216

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	18.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	18.5420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

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3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0191	0.0131	0.1473	4.3000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		42.8900	42.8900	1.2600e-003		42.9216
Total	0.0191	0.0131	0.1473	4.3000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		42.8900	42.8900	1.2600e-003		42.9216

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1899	0.9566	2.5045	9.1200e-003	0.7792	7.7700e-003	0.7869	0.2085	7.2500e-003	0.2158		929.1590	929.1590	0.0488		930.3776
Unmitigated	0.1899	0.9566	2.5045	9.1200e-003	0.7792	7.7700e-003	0.7869	0.2085	7.2500e-003	0.2158		929.1590	929.1590	0.0488		930.3776

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	73.15	70.29	64.46	243,532	243,532
General Office Building	36.40	8.12	3.47	89,086	89,086
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	109.55	78.41	67.93	332,618	332,618

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
General Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.7800e-003	0.0326	0.0163	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543
NaturalGas Unmitigated	4.6100e-003	0.0398	0.0203	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2382	50.2382	9.6000e-004	9.2000e-004	50.5368

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	344.389	3.7100e-003	0.0317	0.0135	2.0000e-004		2.5700e-003	2.5700e-003		2.5700e-003	2.5700e-003		40.5164	40.5164	7.8000e-004	7.4000e-004	40.7572
General Office Building	82.6356	8.9000e-004	8.1000e-003	6.8100e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		9.7218	9.7218	1.9000e-004	1.8000e-004	9.7796
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		4.6000e-003	0.0398	0.0203	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.2382	50.2382	9.7000e-004	9.2000e-004	50.5368

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0.290943	3.1400e-003	0.0268	0.0114	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003		34.2286	34.2286	6.6000e-004	6.3000e-004	34.4320
General Office Building	0.0593367	6.4000e-004	5.8200e-003	4.8900e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9808	6.9808	1.3000e-004	1.3000e-004	7.0223
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.7800e-003	0.0326	0.0163	2.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use only Natural Gas Hearths

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Unmitigated	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841

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	0.0251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0279	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		1.6440	1.6440	1.6000e-003		1.6841
Total	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	lb/day										lb/day						
Architectural Coating	0.0251					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Consumer Products	0.2961					0.0000	0.0000		0.0000	0.0000			0.0000				0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Landscaping	0.0279	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		1.6440	1.6440	1.6000e-003			1.6841
Total	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000		1.6841

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Institute Recycling and Composting Services

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

24601 Hawthorne Blvd Mixed Use Project
Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	3.30	1000sqft	0.08	3,300.00	0
Other Non-Asphalt Surfaces	6.10	1000sqft	0.11	6,096.00	0
Parking Lot	36.00	Space	0.32	14,400.00	0
Apartments Mid Rise	11.00	Dwelling Unit	0.03	11,286.00	31

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	513	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

Project Characteristics - SCE CO2 Intensity Factor based on 2018 SCE Sustainability Report

Land Use - Project Specific Info from Ashai Design Consulting Corp. Oct 2019 - Lot acreage is 0.54

Construction Phase - Default construction schedule with anticipated January 2021 start date

Off-road Equipment -

Off-road Equipment - Additional aerial lifts, drill rigs, and cemet mixers for retaining walls and building construction

Off-road Equipment -

Off-road Equipment - additional backhoes, crawler tractors and grader for site grading

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Compliance with SCAQMD Rule 1113

Woodstoves - Non gas fireplaces allowed under SCAQMD jurisdiction areas

Area Coating - SCAQMD Rule 1113

Energy Use -

Construction Off-road Equipment Mitigation - ARB/EPA Tier 2 engine standard for exhaust and SCAQMD Rule 403 for fugitive dust control

Energy Mitigation - 2019 CALGreen codes would reduce building energy consumption by 30% or more.

Grading - Earthwork quantities: Cut 1,556 cy, and Fill 1,566cy = import 10 cy

Vehicle Trips - Trip generation rate

Water Mitigation - Project would utilized low-flow water fixtures and install water-efficient irrigation system

Area Mitigation - Rule 1113 requires 50 g/L paint

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate in reducing solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblFireplaces	NumberGas	9.35	0.00
tblFireplaces	NumberNoFireplace	1.10	0.00
tblFireplaces	NumberWood	0.55	0.00
tblGrading	AcresOfGrading	3.00	0.50
tblGrading	MaterialImported	0.00	10.00
tblLandUse	LandUseSquareFeet	6,100.00	6,096.00
tblLandUse	LandUseSquareFeet	11,000.00	11,286.00

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tblLandUse	LotAcreage	0.14	0.11
tblLandUse	LotAcreage	0.29	0.03
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	513
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblWoodstoves	NumberCatalytic	0.55	0.00
tblWoodstoves	NumberNoncatalytic	0.55	0.00

2.0 Emissions Summary

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Energy	4.6100e-003	0.0398	0.0203	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2382	50.2382	9.6000e-004	9.2000e-004	50.5368
Mobile	0.1956	0.9340	2.6413	9.5900e-003	0.7792	7.7300e-003	0.7869	0.2085	7.2100e-003	0.2157		976.1689	976.1689	0.0489		977.3913
Total	0.5493	0.9844	3.5747	9.8900e-003	0.7792	0.0160	0.7951	0.2085	0.0154	0.2240	0.0000	1,028.0511	1,028.0511	0.0515	9.2000e-004	1,029.6121

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Energy	3.7800e-003	0.0326	0.0163	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543
Mobile	0.1956	0.9340	2.6413	9.5900e-003	0.7792	7.7300e-003	0.7869	0.2085	7.2100e-003	0.2157		976.1689	976.1689	0.0489		977.3913
Total	0.5484	0.9772	3.5707	9.8500e-003	0.7792	0.0154	0.7945	0.2085	0.0149	0.2234	0.0000	1,019.0223	1,019.0223	0.0513	7.6000e-004	1,020.5296

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.15	0.73	0.11	0.40	0.00	3.57	0.07	0.00	3.69	0.25	0.00	0.88	0.88	0.33	17.39	0.88

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/4/2021	5	1	
2	Grading	Grading	1/5/2021	1/6/2021	5	2	
3	Building Construction	Building Construction	1/7/2021	5/26/2021	5	100	
4	Paving	Paving	5/27/2021	6/2/2021	5	5	
5	Architectural Coating	Architectural Coating	6/3/2021	6/9/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0.43

Residential Indoor: 22,854; Residential Outdoor: 7,618; Non-Residential Indoor: 4,950; Non-Residential Outdoor: 1,650; Striped Parking Area: 1,230 (Architectural Coating – sqft)

OffRoad Equipment

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Graders	1	8.00	187	0.41
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Cement and Mortar Mixers	4	8.00	9	0.56

Trips and VMT

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	18.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6403	7.8204	4.0274	9.7300e-003		0.2995	0.2995		0.2755	0.2755		942.5842	942.5842	0.3049		950.2055
Total	0.6403	7.8204	4.0274	9.7300e-003	0.5303	0.2995	0.8297	0.0573	0.2755	0.3328		942.5842	942.5842	0.3049		950.2055

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804

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					0.2068	0.0000	0.2068	0.0223	0.0000	0.0223			0.0000			0.0000
Off-Road	0.3079	8.6185	5.8579	9.7300e-003		0.2405	0.2405		0.2405	0.2405	0.0000	942.5842	942.5842	0.3049		950.2055
Total	0.3079	8.6185	5.8579	9.7300e-003	0.2068	0.2405	0.4473	0.0223	0.2405	0.2629	0.0000	942.5842	942.5842	0.3049		950.2055

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804
Total	0.0214	0.0147	0.2014	5.7000e-004	0.0559	4.5000e-004	0.0563	0.0148	4.2000e-004	0.0152		56.9385	56.9385	1.6800e-003		56.9804

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.2872	0.0000	6.2872	3.3389	0.0000	3.3389			0.0000			0.0000
Off-Road	3.3560	37.6038	18.8505	0.0433		1.6391	1.6391		1.5218	1.5218		4,177.9467	4,177.9467	1.1940		4,207.7959
Total	3.3560	37.6038	18.8505	0.0433	6.2872	1.6391	7.9263	3.3389	1.5218	4.8607		4,177.9467	4,177.9467	1.1940		4,207.7959

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1700e-003	0.1341	0.0315	3.9000e-004	8.7400e-003	4.1000e-004	9.1500e-003	2.4000e-003	3.9000e-004	2.7900e-003		42.3223	42.3223	2.8700e-003		42.3941
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0813	0.1872	0.7564	2.4500e-003	0.2099	2.0400e-003	0.2120	0.0558	1.8900e-003	0.0577		247.3009	247.3009	8.9100e-003		247.5237

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.4520	0.0000	2.4520	1.3022	0.0000	1.3022			0.0000			0.0000
Off-Road	1.4317	35.1842	24.7306	0.0433		0.9703	0.9703		0.9703	0.9703	0.0000	4,177.9467	4,177.9467	1.1940		4,207.7959
Total	1.4317	35.1842	24.7306	0.0433	2.4520	0.9703	3.4223	1.3022	0.9703	2.2725	0.0000	4,177.9467	4,177.9467	1.1940		4,207.7959

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1700e-003	0.1341	0.0315	3.9000e-004	8.7400e-003	4.1000e-004	9.1500e-003	2.4000e-003	3.9000e-004	2.7900e-003		42.3223	42.3223	2.8700e-003		42.3941
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0813	0.1872	0.7564	2.4500e-003	0.2099	2.0400e-003	0.2120	0.0558	1.8900e-003	0.0577		247.3009	247.3009	8.9100e-003		247.5237

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.3440	13.6898	12.7569	0.0271		0.6197	0.6197		0.5747	0.5747		2,545.2550	2,545.2550	0.7788		2,564.7253
Total	1.3440	13.6898	12.7569	0.0271		0.6197	0.6197		0.5747	0.5747		2,545.2550	2,545.2550	0.7788		2,564.7253

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0152	0.4855	0.1269	1.2900e-003	0.0320	9.9000e-004	0.0330	9.2200e-003	9.5000e-004	0.0102		137.4403	137.4403	8.1000e-003		137.6427
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0924	0.5385	0.8519	3.3500e-003	0.2332	2.6200e-003	0.2358	0.0626	2.4500e-003	0.0650		342.4189	342.4189	0.0141		342.7723

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.0980	23.5562	16.8225	0.0271		0.7466	0.7466		0.7466	0.7466	0.0000	2,545.2550	2,545.2550	0.7788		2,564.7253
Total	1.0980	23.5562	16.8225	0.0271		0.7466	0.7466		0.7466	0.7466	0.0000	2,545.2550	2,545.2550	0.7788		2,564.7253

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0152	0.4855	0.1269	1.2900e-003	0.0320	9.9000e-004	0.0330	9.2200e-003	9.5000e-004	0.0102		137.4403	137.4403	8.1000e-003		137.6427
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0924	0.5385	0.8519	3.3500e-003	0.2332	2.6200e-003	0.2358	0.0626	2.4500e-003	0.0650		342.4189	342.4189	0.0141		342.7723

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7214	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8891	6.7178	7.0899	0.0113		0.3534	0.3534		0.3286	0.3286		1,035.3425	1,035.3425	0.3016		1,042.8818

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296

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	0.5717	9.4775	7.8279	0.0113		0.3472	0.3472		0.3472	0.3472	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818
Paving	0.1677					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.7393	9.4775	7.8279	0.0113		0.3472	0.3472		0.3472	0.3472	0.0000	1,035.3425	1,035.3425	0.3016		1,042.8818

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296
Total	0.0772	0.0530	0.7250	2.0600e-003	0.2012	1.6300e-003	0.2028	0.0534	1.5000e-003	0.0549		204.9786	204.9786	6.0400e-003		205.1296

3.6 Architectural Coating - 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					
Archit. Coating	18.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	18.5420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.6 Architectural Coating - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0172	0.0118	0.1611	4.6000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		45.5508	45.5508	1.3400e-003		45.5844
Total	0.0172	0.0118	0.1611	4.6000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		45.5508	45.5508	1.3400e-003		45.5844

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	18.3231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	18.5420	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

3.6 Architectural Coating - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0172	0.0118	0.1611	4.6000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		45.5508	45.5508	1.3400e-003		45.5844
Total	0.0172	0.0118	0.1611	4.6000e-004	0.0447	3.6000e-004	0.0451	0.0119	3.3000e-004	0.0122		45.5508	45.5508	1.3400e-003		45.5844

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.1956	0.9340	2.6413	9.5900e-003	0.7792	7.7300e-003	0.7869	0.2085	7.2100e-003	0.2157		976.1689	976.1689	0.0489		977.3913
Unmitigated	0.1956	0.9340	2.6413	9.5900e-003	0.7792	7.7300e-003	0.7869	0.2085	7.2100e-003	0.2157		976.1689	976.1689	0.0489		977.3913

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	73.15	70.29	64.46	243,532	243,532
General Office Building	36.40	8.12	3.47	89,086	89,086
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	109.55	78.41	67.93	332,618	332,618

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
General Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	3.7800e-003	0.0326	0.0163	2.1000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543
NaturalGas Unmitigated	4.6100e-003	0.0398	0.0203	2.5000e-004		3.1800e-003	3.1800e-003		3.1800e-003	3.1800e-003		50.2382	50.2382	9.6000e-004	9.2000e-004	50.5368

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

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	344.389	3.7100e-003	0.0317	0.0135	2.0000e-004		2.5700e-003	2.5700e-003		2.5700e-003	2.5700e-003		40.5164	40.5164	7.8000e-004	7.4000e-004	40.7572
General Office Building	82.6356	8.9000e-004	8.1000e-003	6.8100e-003	5.0000e-005		6.2000e-004	6.2000e-004		6.2000e-004	6.2000e-004		9.7218	9.7218	1.9000e-004	1.8000e-004	9.7796
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		4.6000e-003	0.0398	0.0203	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.2382	50.2382	9.7000e-004	9.2000e-004	50.5368

24601 Hawthorne Blvd Mixed Use Project - Los Angeles-South Coast County, Summer

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	0.290943	3.1400e-003	0.0268	0.0114	1.7000e-004		2.1700e-003	2.1700e-003		2.1700e-003	2.1700e-003		34.2286	34.2286	6.6000e-004	6.3000e-004	34.4320
General Office Building	0.0593367	6.4000e-004	5.8200e-003	4.8900e-003	3.0000e-005		4.4000e-004	4.4000e-004		4.4000e-004	4.4000e-004		6.9808	6.9808	1.3000e-004	1.3000e-004	7.0223
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		3.7800e-003	0.0326	0.0163	2.0000e-004		2.6100e-003	2.6100e-003		2.6100e-003	2.6100e-003		41.2094	41.2094	7.9000e-004	7.6000e-004	41.4543

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use only Natural Gas Hearths

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841
Unmitigated	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841

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	0.0251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0279	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		1.6440	1.6440	1.6000e-003		1.6841
Total	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0251					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.2961					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0279	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003		1.6440	1.6440	1.6000e-003		1.6841
Total	0.3490	0.0105	0.9131	5.0000e-005		5.0400e-003	5.0400e-003		5.0400e-003	5.0400e-003	0.0000	1.6440	1.6440	1.6000e-003	0.0000	1.6841

7.0 Water Detail

7.1 Mitigation Measures Water

- Install Low Flow Bathroom Faucet
- Install Low Flow Kitchen Faucet
- Install Low Flow Toilet
- Install Low Flow Shower
- Use Water Efficient Irrigation System

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Institute Recycling and Composting Services

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

Equipment Type	Number
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11.0 Vegetation

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1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Office Building	3.30	1000sqft	0.08	3,300.00	0
Other Non-Asphalt Surfaces	6.10	1000sqft	0.11	6,096.00	0
Parking Lot	36.00	Space	0.32	14,400.00	0
Apartments Mid Rise	11.00	Dwelling Unit	0.03	11,286.00	31

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	513	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

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Project Characteristics - SCE CO2 Intensity Factor based on 2018 SCE Sustainability Report

Land Use - Project Specific Info from Ashai Design Consulting Corp. Oct 2019 - Lot acreage is 0.54

Construction Phase - Default construction schedule with anticipated January 2021 start date

Off-road Equipment -

Off-road Equipment - Additional aerial lifts, drill rigs, and cemet mixers for retaining walls and building construction

Off-road Equipment -

Off-road Equipment - additional backhoes, crawler tractors and grader for site grading

Off-road Equipment -

Off-road Equipment -

Architectural Coating - Compliance with SCAQMD Rule 1113

Woodstoves - Non gas fireplaces allowed under SCAQMD jurisdiction areas

Area Coating - SCAQMD Rule 1113

Energy Use -

Construction Off-road Equipment Mitigation - ARB/EPA Tier 2 engine standard for exhaust and SCAQMD Rule 403 for fugitive dust control

Energy Mitigation - 2019 CALGreen codes would reduce building energy consumption by 30% or more.

Grading - Earthwork quantities: Cut 1,556 cy, and Fill 1,566cy = import 10 cy

Vehicle Trips - Trip generation rate

Water Mitigation - Project would utilized low-flow water fixtures and install water-efficient irrigation system

Area Mitigation - Rule 1113 requires 50 g/L paint

Waste Mitigation - Consistent with the CalRecycle Waste Diversion and Recycling Mandate in reducing solid waste production by 75 percent.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	50.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	50.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	50
tblAreaCoating	Area_EF_Nonresidential_Interior	100	50
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15

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tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblConstEquipMitigation	Tier	No Change	Tier 2
tblFireplaces	NumberGas	9.35	0.00
tblFireplaces	NumberNoFireplace	1.10	0.00
tblFireplaces	NumberWood	0.55	0.00
tblGrading	AcresOfGrading	3.00	0.50
tblGrading	MaterialImported	0.00	10.00
tblLandUse	LandUseSquareFeet	6,100.00	6,096.00
tblLandUse	LandUseSquareFeet	11,000.00	11,286.00

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tblLandUse	LotAcreage	0.14	0.11
tblLandUse	LotAcreage	0.29	0.03
tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.50	0.50
tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Bore/Drill Rigs
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	UsageHours	1.00	8.00
tblOffRoadEquipment	UsageHours	6.00	8.00
tblProjectCharacteristics	CO2IntensityFactor	702.44	513
tblVehicleTrips	HO_TTP	40.60	40.00
tblVehicleTrips	HS_TTP	19.20	20.00
tblVehicleTrips	HW_TTP	40.20	40.00
tblWoodstoves	NumberCatalytic	0.55	0.00
tblWoodstoves	NumberNoncatalytic	0.55	0.00

2.0 Emissions Summary

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-4-2021	4-3-2021	0.5196	0.8156
2	4-4-2021	7-3-2021	0.3661	0.5547
		Highest	0.5196	0.8156

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	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910
Energy	8.4000e-004	7.2700e-003	3.7100e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	30.4083	30.4083	1.4100e-003	4.1000e-004	30.5659
Mobile	0.0306	0.1608	0.4196	1.5300e-003	0.1262	1.2800e-003	0.1275	0.0338	1.1900e-003	0.0350	0.0000	141.1970	141.1970	7.2700e-003	0.0000	141.3788
Waste						0.0000	0.0000		0.0000	0.0000	1.6503	0.0000	1.6503	0.0975	0.0000	4.0886
Water						0.0000	0.0000		0.0000	0.0000	0.4135	6.0460	6.4595	0.0428	1.0700e-003	7.8495
Total	0.0936	0.1694	0.5374	1.5900e-003	0.1262	2.4900e-003	0.1287	0.0338	2.4000e-003	0.0362	2.0638	177.8377	179.9015	0.1492	1.4800e-003	184.0738

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2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910
Energy	6.9000e-004	5.9500e-003	2.9700e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	27.6904	27.6904	1.3100e-003	3.7000e-004	27.8332
Mobile	0.0306	0.1608	0.4196	1.5300e-003	0.1262	1.2800e-003	0.1275	0.0338	1.1900e-003	0.0350	0.0000	141.1970	141.1970	7.2700e-003	0.0000	141.3788
Waste						0.0000	0.0000		0.0000	0.0000	0.4126	0.0000	0.4126	0.0244	0.0000	1.0222
Water						0.0000	0.0000		0.0000	0.0000	0.3308	5.1284	5.4591	0.0343	8.6000e-004	6.5726
Total	0.0934	0.1681	0.5367	1.5800e-003	0.1262	2.3900e-003	0.1286	0.0338	2.3000e-003	0.0361	0.7433	174.2022	174.9455	0.0674	1.2300e-003	176.9977

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.16	0.78	0.14	0.63	0.00	4.02	0.08	0.00	4.17	0.28	63.98	2.04	2.75	54.83	16.89	3.84

3.0 Construction Detail

Construction Phase

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/4/2021	1/4/2021	5	1	
2	Grading	Grading	1/5/2021	1/6/2021	5	2	
3	Building Construction	Building Construction	1/7/2021	5/26/2021	5	100	
4	Paving	Paving	5/27/2021	6/2/2021	5	5	
5	Architectural Coating	Architectural Coating	6/3/2021	6/9/2021	5	5	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0.5

Acres of Paving: 0.43

Residential Indoor: 22,854; Residential Outdoor: 7,618; Non-Residential Indoor: 4,950; Non-Residential Outdoor: 1,650; Striped Parking Area: 1,230 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Building Construction	Forklifts	2	6.00	89	0.20
Building Construction	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Paving	Pavers	1	7.00	130	0.42
Paving	Rollers	1	7.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Graders	1	8.00	187	0.41
Building Construction	Bore/Drill Rigs	1	8.00	221	0.50
Building Construction	Aerial Lifts	2	8.00	63	0.31
Building Construction	Cement and Mortar Mixers	4	8.00	9	0.56

Trips and VMT

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Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	18.00	0.00	1.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	12	18.00	5.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	4.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.2000e-004	3.9100e-003	2.0100e-003	0.0000		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	3.2000e-004	3.9100e-003	2.0100e-003	0.0000	2.7000e-004	1.5000e-004	4.2000e-004	3.0000e-005	1.4000e-004	1.7000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

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3.2 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247

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					1.0000e-004	0.0000	1.0000e-004	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.5000e-004	4.3100e-003	2.9300e-003	0.0000		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310
Total	1.5000e-004	4.3100e-003	2.9300e-003	0.0000	1.0000e-004	1.2000e-004	2.2000e-004	1.0000e-005	1.2000e-004	1.3000e-004	0.0000	0.4276	0.4276	1.4000e-004	0.0000	0.4310

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3.2 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247
Total	1.0000e-005	1.0000e-005	9.0000e-005	0.0000	3.0000e-005	0.0000	3.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0247	0.0247	0.0000	0.0000	0.0247

3.3 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2900e-003	0.0000	6.2900e-003	3.3400e-003	0.0000	3.3400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3600e-003	0.0376	0.0189	4.0000e-005		1.6400e-003	1.6400e-003		1.5200e-003	1.5200e-003	0.0000	3.7902	3.7902	1.0800e-003	0.0000	3.8173
Total	3.3600e-003	0.0376	0.0189	4.0000e-005	6.2900e-003	1.6400e-003	7.9300e-003	3.3400e-003	1.5200e-003	4.8600e-003	0.0000	3.7902	3.7902	1.0800e-003	0.0000	3.8173

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3.3 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.4000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0381	0.0381	0.0000	0.0000	0.0382
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	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1780	0.1780	1.0000e-005	0.0000	0.1781
Total	8.0000e-005	2.0000e-004	7.1000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2161	0.2161	1.0000e-005	0.0000	0.2163

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					2.4500e-003	0.0000	2.4500e-003	1.3000e-003	0.0000	1.3000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.4300e-003	0.0352	0.0247	4.0000e-005		9.7000e-004	9.7000e-004		9.7000e-004	9.7000e-004	0.0000	3.7902	3.7902	1.0800e-003	0.0000	3.8172
Total	1.4300e-003	0.0352	0.0247	4.0000e-005	2.4500e-003	9.7000e-004	3.4200e-003	1.3000e-003	9.7000e-004	2.2700e-003	0.0000	3.7902	3.7902	1.0800e-003	0.0000	3.8172

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3.3 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	1.4000e-004	3.0000e-005	0.0000	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0381	0.0381	0.0000	0.0000	0.0382
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	8.0000e-005	6.0000e-005	6.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1780	0.1780	1.0000e-005	0.0000	0.1781
Total	8.0000e-005	2.0000e-004	7.1000e-004	0.0000	2.1000e-004	0.0000	2.1000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.2161	0.2161	1.0000e-005	0.0000	0.2163

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0672	0.6845	0.6378	1.3500e-003		0.0310	0.0310		0.0287	0.0287	0.0000	115.4508	115.4508	0.0353	0.0000	116.3340
Total	0.0672	0.6845	0.6378	1.3500e-003		0.0310	0.0310		0.0287	0.0287	0.0000	115.4508	115.4508	0.0353	0.0000	116.3340

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3.4 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-004	0.0247	6.6900e-003	6.0000e-005	1.5700e-003	5.0000e-005	1.6300e-003	4.5000e-004	5.0000e-005	5.0000e-004	0.0000	6.1624	6.1624	3.8000e-004	0.0000	6.1719
Worker	3.8700e-003	3.0100e-003	0.0340	1.0000e-004	9.8600e-003	8.0000e-005	9.9400e-003	2.6200e-003	7.0000e-005	2.6900e-003	0.0000	8.9003	8.9003	2.6000e-004	0.0000	8.9068
Total	4.6500e-003	0.0277	0.0407	1.6000e-004	0.0114	1.3000e-004	0.0116	3.0700e-003	1.2000e-004	3.1900e-003	0.0000	15.0627	15.0627	6.4000e-004	0.0000	15.0787

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	0.0549	1.1778	0.8411	1.3500e-003		0.0373	0.0373		0.0373	0.0373	0.0000	115.4507	115.4507	0.0353	0.0000	116.3338
Total	0.0549	1.1778	0.8411	1.3500e-003		0.0373	0.0373		0.0373	0.0373	0.0000	115.4507	115.4507	0.0353	0.0000	116.3338

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3.4 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.8000e-004	0.0247	6.6900e-003	6.0000e-005	1.5700e-003	5.0000e-005	1.6300e-003	4.5000e-004	5.0000e-005	5.0000e-004	0.0000	6.1624	6.1624	3.8000e-004	0.0000	6.1719
Worker	3.8700e-003	3.0100e-003	0.0340	1.0000e-004	9.8600e-003	8.0000e-005	9.9400e-003	2.6200e-003	7.0000e-005	2.6900e-003	0.0000	8.9003	8.9003	2.6000e-004	0.0000	8.9068
Total	4.6500e-003	0.0277	0.0407	1.6000e-004	0.0114	1.3000e-004	0.0116	3.0700e-003	1.2000e-004	3.1900e-003	0.0000	15.0627	15.0627	6.4000e-004	0.0000	15.0787

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8000e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	4.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	2.2200e-003	0.0168	0.0177	3.0000e-005		8.8000e-004	8.8000e-004		8.2000e-004	8.2000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

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3.5 Paving - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-004	1.7000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4450	0.4450	1.0000e-005	0.0000	0.4453
Total	1.9000e-004	1.5000e-004	1.7000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4450	0.4450	1.0000e-005	0.0000	0.4453

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	1.4300e-003	0.0237	0.0196	3.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652
Paving	4.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.8500e-003	0.0237	0.0196	3.0000e-005		8.7000e-004	8.7000e-004		8.7000e-004	8.7000e-004	0.0000	2.3481	2.3481	6.8000e-004	0.0000	2.3652

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3.5 Paving - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.9000e-004	1.5000e-004	1.7000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4450	0.4450	1.0000e-005	0.0000	0.4453
Total	1.9000e-004	1.5000e-004	1.7000e-003	0.0000	4.9000e-004	0.0000	5.0000e-004	1.3000e-004	0.0000	1.3000e-004	0.0000	0.4450	0.4450	1.0000e-005	0.0000	0.4453

3.6 Architectural Coating - 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					
Archit. Coating	0.0458					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	0.0464	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394

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3.6 Architectural Coating - 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	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990

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	0.0458					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.5000e-004	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394
Total	0.0464	3.8200e-003	4.5400e-003	1.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	0.6383	0.6383	4.0000e-005	0.0000	0.6394

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3.6 Architectural Coating - 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	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990
Total	4.0000e-005	3.0000e-005	3.8000e-004	0.0000	1.1000e-004	0.0000	1.1000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0989	0.0989	0.0000	0.0000	0.0990

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0306	0.1608	0.4196	1.5300e-003	0.1262	1.2800e-003	0.1275	0.0338	1.1900e-003	0.0350	0.0000	141.1970	141.1970	7.2700e-003	0.0000	141.3788
Unmitigated	0.0306	0.1608	0.4196	1.5300e-003	0.1262	1.2800e-003	0.1275	0.0338	1.1900e-003	0.0350	0.0000	141.1970	141.1970	7.2700e-003	0.0000	141.3788

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	73.15	70.29	64.46	243,532	243,532
General Office Building	36.40	8.12	3.47	89,086	89,086
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	109.55	78.41	67.93	332,618	332,618

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.00	20.00	40.00	86	11	3
General Office Building	16.60	8.40	6.90	33.00	48.00	19.00	77	19	4
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Parking Lot	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
General Office Building	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Other Non-Asphalt Surfaces	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876
Parking Lot	0.546501	0.044961	0.204016	0.120355	0.015740	0.006196	0.020131	0.030678	0.002515	0.002201	0.005142	0.000687	0.000876

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.8677	20.8677	1.1800e-003	2.4000e-004	20.9699
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	22.0908	22.0908	1.2500e-003	2.6000e-004	22.1990
NaturalGas Mitigated	6.9000e-004	5.9500e-003	2.9700e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8227	6.8227	1.3000e-004	1.3000e-004	6.8632
NaturalGas Unmitigated	8.4000e-004	7.2700e-003	3.7100e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669

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5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	125702	6.8000e-004	5.7900e-003	2.4600e-003	4.0000e-005		4.7000e-004	4.7000e-004		4.7000e-004	4.7000e-004	0.0000	6.7079	6.7079	1.3000e-004	1.2000e-004	6.7478
General Office Building	30162	1.6000e-004	1.4800e-003	1.2400e-003	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.6096	1.6096	3.0000e-005	3.0000e-005	1.6191
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		8.4000e-004	7.2700e-003	3.7000e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3175	8.3175	1.6000e-004	1.5000e-004	8.3669

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5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	106194	5.7000e-004	4.8900e-003	2.0800e-003	3.0000e-005		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	5.6669	5.6669	1.1000e-004	1.0000e-004	5.7006
General Office Building	21657.9	1.2000e-004	1.0600e-003	8.9000e-004	1.0000e-005		8.0000e-005	8.0000e-005		8.0000e-005	8.0000e-005	0.0000	1.1558	1.1558	2.0000e-005	2.0000e-005	1.1626
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		6.9000e-004	5.9500e-003	2.9700e-003	4.0000e-005		4.8000e-004	4.8000e-004		4.8000e-004	4.8000e-004	0.0000	6.8227	6.8227	1.3000e-004	1.2000e-004	6.8632

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	43728.3	10.1753	5.8000e-004	1.2000e-004	10.2251
General Office Building	46167	10.7427	6.1000e-004	1.3000e-004	10.7954
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5040	1.1728	7.0000e-005	1.0000e-005	1.1785
Total		22.0908	1.2600e-003	2.6000e-004	22.1990

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5.3 Energy by Land Use - Electricity

Mitigated

Land Use	Electricity Use kWh/yr	Total CO2 MT/yr	CH4 MT/yr	N2O MT/yr	CO2e MT/yr
Apartments Mid Rise	43135.1	10.0372	5.7000e-004	1.2000e-004	10.0864
General Office Building	41504.1	9.6577	5.5000e-004	1.1000e-004	9.7050
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	5040	1.1728	7.0000e-005	1.0000e-005	1.1785
Total		20.8677	1.1900e-003	2.4000e-004	20.9699

6.0 Area Detail

6.1 Mitigation Measures Area

- Use Low VOC Paint - Residential Interior
- Use Low VOC Paint - Residential Exterior
- Use Low VOC Paint - Non-Residential Interior
- Use Low VOC Paint - Non-Residential Exterior
- Use only Natural Gas Hearths

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910
Unmitigated	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910

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	4.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4800e-003	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910
Total	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.5800e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0540					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.4800e-003	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910
Total	0.0621	1.3100e-003	0.1141	1.0000e-005		6.3000e-004	6.3000e-004		6.3000e-004	6.3000e-004	0.0000	0.1864	0.1864	1.8000e-004	0.0000	0.1910

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	5.4591	0.0343	8.6000e-004	6.5726
Unmitigated	6.4595	0.0428	1.0700e-003	7.8495

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.716694 / 0.451829	3.5670	0.0235	5.9000e-004	4.3315
General Office Building	0.586521 / 0.359481	2.8925	0.0193	4.8000e-004	3.5180
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		6.4595	0.0428	1.0700e-003	7.8495

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.573355 / 0.424267	3.0159	0.0188	4.7000e-004	3.6283
General Office Building	0.469217 / 0.337553	2.4432	0.0154	3.9000e-004	2.9442
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		5.4591	0.0343	8.6000e-004	6.5726

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.4126	0.0244	0.0000	1.0222
Unmitigated	1.6503	0.0975	0.0000	4.0886

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	5.06	1.0271	0.0607	0.0000	2.5447
General Office Building	3.07	0.6232	0.0368	0.0000	1.5439
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		1.6503	0.0975	0.0000	4.0886

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	1.265	0.2568	0.0152	0.0000	0.6362
General Office Building	0.7675	0.1558	9.2100e-003	0.0000	0.3860
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		0.4126	0.0244	0.0000	1.0222

9.0 Operational Offroad

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

Fire Pumps and Emergency Generators

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

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

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Equipment Type	Number
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11.0 Vegetation
