

GREENHOUSE GAS IMPACT ANALYSIS

FOR THE

YORK RESIDENCE PROJECT

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INTRODUCTION

This Greenhouse Gas Impact Analysis has been prepared to evaluate the potential greenhouse gas (GHG) impacts associated with the proposed York Residence project. The purpose of this analysis is to identify the construction-related and operational GHG emissions that would be generated by the proposed project and compare these with established standards, including the thresholds of significance recommended by the South Coast Air Quality Management District (SCAQMD). This analysis also evaluates the consistency of the proposed project with the applicable policies that have been adopted to reduce state-wide GHG emissions.

There are several unique challenges to analyzing greenhouse gas emissions and climate change under the California Environmental Quality Act (CEQA), largely because of climate change's "global" nature. Typical CEQA analyses address local actions that have local – or, at most, regional – impacts, whereas climate change presents the considerable challenge of analyzing the relationship between local activities and the resulting potential, if any, for global environmental impacts. Most environmental analyses examine the "project-specific" impacts that a particular project is likely to generate. With regard to global warming, however, it is generally accepted that while the magnitude of global warming effects is substantial, the contribution of an individual general development project is so small that direct project-specific significant impacts (albeit not cumulative significant impacts) are highly unlikely.

Global climate change is also fundamentally different from other types of air quality impact analyses under CEQA in which the impacts are all measured within, and are linked to, a discrete region or area. Instead, a global climate change analysis must be considered on a global level, rather than the typical local or regional setting, and requires consideration of not only emissions from the project under consideration, but also the extent of the displacement, translocation, and redistribution of emissions. In the usual context, where air quality is linked to a particular location or area, it is appropriate to consider the creation of new emissions in that specific area to be an environmental impact whether or not the emissions are truly "new" emissions to the overall globe. When the impact is a global one, however, it makes more sense to consider whether the emissions really are new emissions, or are merely being moved from one place to another. For example, the approval of a new developmental plan or project does not necessarily create new automobile drivers - the primary source of a land use project's emissions. Rather, due to the "relocation" factor, new land use projects sometimes merely redistribute existing

mobile emissions;¹ accordingly, the use of models that measure overall emissions increases without accounting for existing emissions will substantially overstate the impact of the development project on global warming. This makes an accurate analysis of GHG emissions substantially different from other air quality impacts, where the “addition” of redistributed emissions to a new locale can make a substantial difference to overall air quality.

SUMMARY

The proposed project would generate greenhouse gas emissions, but these emissions would not exceed the draft thresholds of significance being considered by the SCAQMD.

The proposed project would generate greenhouse gas emissions, but would be consistent with applicable plans to reduce greenhouse gas emissions in California.

PROJECT DESCRIPTION

The proposed project site is located at the northern end of Innsdale Drive in the Hollywood Community Plan area of the City of Los Angeles. The project site has an address of 6459 Innsdale Drive and is largely undeveloped although a portion of the site has been used for an orchard. The site has a land use designation of Medium Residential, as set forth in the Hollywood Community Plan and is currently zoned as RE40-1-H (Residential Estate Zone – 40,000 square feet minimum lot area). Single family residences are located to the immediate south of the site.

The proposed project involves the construction of a new single family residence at the site. The residence would include a 9,250-square-foot residence with basement level, an 1,850-square-foot guest house, a pool, and equine and ovine areas. Project grading would excavate earth material from the proposed residential pad and transport it to a fill site on the property. It is understood that approximately 3.14 acres of the 40.46-acre site would be affected by ground work. Construction activities would also involve a 20-foot-wide private driveway/fire access from the western terminus of Innsdale Drive to the residential

¹ For example, a subdivision of 500 homes generates 5,000 new trips per day and those trips would be added to the local streets and intersections. In the case of climate change, the trips that are associated with those same 500 homes presumably would emit roughly the same volume of GHGs in the City of Los Angeles as they would if they were traveling the same number of miles in Cleveland, Ohio. As a result, while raw vehicle trip counts occurring within a project area will accurately predict changes in congestion at intersections, the same certainty cannot be provided for climate change. The trips would certainly increase the number of vehicles passing through local intersections, but they will not increase the amount of GHG emissions into the world’s atmosphere if those trips simply have been relocated from another location on the planet.

area. The total roadway/driveway area would be approximately 15,904 square feet. Most of this would be concrete although approximately 3,829 square feet of this total is in the public right-of-way and would be asphalt over road base.

The project would be constructed to meet or exceed all current City of Los Angeles Building Code and California Energy/Title 24 requirements. Solar panels are proposed for the roof although the amount of power generation has not been specified.

Construction activities are anticipated to take place over a period of approximately 16 months.

BACKGROUND INFORMATION

GHG emissions refer to a group of emissions that are believed to affect global climate conditions. These gases trap heat in the atmosphere and the major concern is that increases in GHG emissions are causing global climate change. Global climate change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, most scientific experts agree that there is a direct link between increased emission of GHGs and long-term global temperature. What GHGs have in common is that they allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect a greenhouse has in raising its internal temperature, hence the name greenhouse gases. Both natural processes and human activities emit GHGs. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature; however, it is the scientific consensus that emissions from human activities such as electricity generation and motor vehicle operations have elevated the concentration of GHGs in the atmosphere. This accumulation of GHGs has contributed to an increase in the temperature of the earth's atmosphere and contributed to global climate change.

The principal GHGs are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H₂O). CO₂ is the reference gas for climate change because it is the predominant greenhouse gas emitted. To account for the varying warming potential of different GHGs, GHG emissions are often quantified and reported as CO₂ equivalents (CO₂e).

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05 on June 1, 2005, which calls for a reduction in GHG emissions to 1990 levels by 2020 and for an 80 percent reduction in GHG emissions below 1990 levels by 2050 in California. The Secretary of the California Environmental Protection Agency (CalEPA) was charged with coordination of efforts to meet these targets and formed the Climate Action Team (CAT) to implement the Order.

In March 2006, the CAT published the Climate Action Team Report to Governor Schwarzenegger and the Legislature (the 2006 CAT Report). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies.

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the California Air Resources Board (ARB) to design and implement emission limits, regulations, and other measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020. As a central requirement of AB 32, the ARB was assigned the task of developing a Scoping Plan that outlines the State's strategy to achieve the 2020 GHG emissions limit. This Scoping Plan, which was developed by the ARB in coordination with the CAT, was published in October 2008. The Scoping Plan proposed a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce the State's dependence on oil, diversify the State's energy sources, save energy, create new jobs, and enhance public health. An important component of the plan is a cap-and-trade program covering 85 percent of the State's emissions. Additional key recommendations of the Scoping Plan include strategies to enhance and expand proven cost-saving energy efficiency programs; implementation of California's clean cars standards; increases in the amount of clean and renewable energy used to power the State; and implementation of a low-carbon fuel standard that will make the fuels used in the State cleaner. Furthermore, the Scoping Plan also proposed full deployment of the California Solar Initiative, high-speed rail, water-related energy efficiency measures, and a range of regulations to reduce emissions from trucks and from ships docked in California ports. The Scoping Plan was approved by the ARB on December 11, 2008. According to The 2017 Climate Change Scoping Plan Update, California has made progress toward achieving the 2020 statewide target while also reducing criteria pollutants and toxic air contaminants, and supporting economic growth.²

In April 2015, Governor Brown signed Executive Order B-30-15 which establishes a new interim target to reduce statewide GHG emissions to 40 percent below 1990 levels by 2030. This interim target is established to ensure that the state meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. Five key goals for reducing GHG emissions through 2030 include: increasing renewable electricity to 50 percent; 2) doubling the energy efficiency savings achieved in existing buildings and making heating fuels cleaner; 3) reducing petroleum use in cars and trucks by up to 50 percent; 4) reducing emissions of short-lived climate pollutants; and 5) managing farms, rangelands, forests and wetlands to increasingly store carbon. Executive Order B-30-15 also called on the ARB to update the AB 32 Climate Change Scoping Plan to incorporate the 2030 target. The new interim standard was adopted

² California Air Resources Board, 2017.

under Senate Bill 32 (SB) 32 and the ARB requirements were adopted under AB 197 in the Summer of 2016.

According to The 2017 Climate Change Scoping Plan Update, the major source of GHGs in California is transportation, contributing approximately 37 percent of the state's total GHG emissions.³ Industrial sources are the second largest generator, contributing approximately 24 percent of the state's GHG emissions. Residential and commercial sources contribute only about six and five percent of the state's GHG emissions, respectively. These are less than the eight percent generated by agriculture.

The City of Los Angeles has begun to address the issue of global climate change by publishing *Green LA, An Action Plan to Lead the Nation in Fighting Global Warming* (LA Green Plan). This document outlines the goals and actions the City has established to reduce the generation and emission of GHGs from both public and private activities. According to the LA Green Plan, the City of Los Angeles is committed to the goal of reducing emissions of CO₂ to 35 percent below 1990 levels. To achieve this, the City will:

- Increase the generation of renewable energy;
- Improve energy conservation and efficiency; and
- Change transportation and land use patterns to reduce dependence on automobiles.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G to the CEQA Guidelines, a project could have a potentially significant impact associated with GHG emissions if any of the following were to occur:

- (a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- (b) Conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHG.

PROJECT IMPACTS

Generation of Greenhouse Gas Emissions

Threshold: Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

³ Ibid.

Impact: The proposed project would generate greenhouse gas emissions, but these emissions would not exceed the draft thresholds of significance being considered by the SCAQMD. The impact of the proposed project would be less than significant.

Impact Analysis

CEQA defines a “significant effect on the environment” as a substantial, or potentially substantial, adverse change in the environment.⁴ With respect to global climate change, no one project can individually create a direct impact on what is a global problem (i.e., no project will, by itself, raise the temperature of the planet).

However, the emissions generated by a project may be “cumulatively considerable,” meaning “that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.”⁵ The CEQA Guidelines add that a lead agency may determine that a project’s incremental contribution to a cumulative effect is not cumulatively considerable if the project will comply with the requirements in a previously approved plan or mitigation program (including, but not limited to, water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plan, plans or regulations for the reduction of greenhouse gas emissions) that provides specific requirements that will avoid or substantially lessen the cumulative problem within the geographic area in which the project is located.⁶

Generally, the evaluation of an impact under CEQA requires measuring data from a project against a “threshold of significance.”⁷ Furthermore, “when adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”⁸ For greenhouse gas emissions and global warming, there is not, at this time, one established, universally agreed-upon “threshold of significance” by which to measure an impact.

The City of Los Angeles relies upon the expert guidance of the South Coast Air Quality Management District (SCAQMD) regarding the methodology and thresholds of significance for the evaluation of air quality impacts within the South Coast Air Basin. GHG emissions are air pollutants that are subject to

⁴ Public Resources Code Section 21068.

⁵ CEQA Guidelines Section 15065(a)(3).

⁶ CEQA Guidelines Section 15064(h)(3).

⁷ CEQA Guidelines Section 15064.7.

⁸ CEQA Guidelines Section 15064.7(c).

local control by the SCAQMD. As such, the City looks to the SCAQMD for guidance in the evaluation of GHG impacts.

The SCAQMD has been evaluating GHG significance thresholds since April 2008. In December 2008, the SCAQMD adopted an interim 10,000 metric tons of carbon dioxide equivalents (MTCO_{2e}) per year screening level threshold for stationary source/industrial projects for which the SCAQMD is the lead agency. The SCAQMD has continued to consider adoption of significance thresholds for residential and general development projects. The most recent proposal issued in September 2010 uses the following tiered approach to evaluate potential GHG impacts from various uses:

- Tier 1** Determine if CEQA categorical exemptions are applicable. If not, move to Tier 2.
- Tier 2** Consider whether or not the proposed project is consistent with a locally adopted GHG reduction plan that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. If not, move to Tier 3.
- Tier 3** Consider whether the project generates GHG emissions in excess of screening thresholds for individual land uses. The 10,000 MTCO_{2e}/year threshold for industrial uses would be recommended for use by all lead agencies. Under option 1, separate screening thresholds are proposed for residential projects (3,500 MTCO_{2e}/year), commercial projects (1,400 MTCO_{2e}/year), and mixed-use projects (3,000 MTCO_{2e}/year). Under option 2 a single numerical screening threshold of 3,000 MTCO_{2e}/year would be used for all non-industrial projects. If the project generates emissions in excess of the applicable screening threshold, move to Tier 4.
- Tier 4** Consider whether the project generates GHG emissions in excess of applicable performance standards for the project service population (population plus employment). The efficiency targets were established based on the goal of AB 32 to reduce statewide GHG emissions by 2020 and 2035. The 2020 efficiency targets are 4.8 MTCO_{2e} per service population for project level analyses and 6.6 MTCO_{2e} per service population for plan level analyses. The 2035 targets that reduce emissions to 40 percent below 1990 levels are 3.0 MTCO_{2e} per service population for project level analyses and 4.1 MTCO_{2e} per service population for plan level analyses. If the project generates emissions in excess of the applicable efficiency targets, move to Tier 5.
- Tier 5** Consider the implementation of CEQA mitigation (including the purchase of GHG offsets) to reduce the project efficiency target to Tier 4 levels.

The thresholds identified above have not been adopted by the SCAQMD or distributed for widespread public review and comment, and the working group tasked with developing the thresholds has not met since September 2010. The future schedule and likelihood of threshold adoption is uncertain.

However, for the purpose of evaluating the GHG impacts associated with the proposed project, this analysis utilizes the SCAQMD's draft tiered thresholds. The SCAQMD's draft thresholds have also been utilized for other projects in the City of Los Angeles.

Tier 1

The proposed project is subject to CEQA, but no categorical exemptions are applicable to the project. Therefore, the analysis moves to Tier 2.

Tier 2

The proposed project would be required to comply with the City of Los Angeles Green Building Program Ordinance, which would reduce the GHG emissions that would be associated with operation of the proposed new building. However, neither the SCAQMD nor the City of Los Angeles have adopted a GHG reduction plan that has gone through public hearings and CEQA review, that has an approved inventory, includes monitoring, etc. Therefore, the analysis moves to Tier 3.

Tier 3

The estimated annual construction-related and operational GHG emissions associated with the proposed project have been calculated utilizing the the California Emissions Estimator Model (CalEEMod v. 2016.3.2) recommended by the SCAQMD. These emissions are shown in Table 1. As shown, the annual emissions would not exceed the draft 3,500 MTCO_{2e} threshold for residential projects. Therefore, the City of Los Angeles, as lead agency, may conclude that the GHG emissions generated in association with the proposed project would not have a significant impact on the environment.

Consistency with GHG Plans

Threshold: Would the proposed project conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHG?

Impact: The proposed project would generate greenhouse gas emissions, but would be consistent with applicable plans to reduce greenhouse gas emissions in California. The impact of the proposed project would be less than significant.

Impact Analysis

As discussed previously, the 2006 CAT Report and the ARB's Scoping Plan were developed to direct the state to reduce GHG emissions to 1990 levels. The strategies from the 2006 CAT Report and measures from the ARB's Scoping Plan are applicable to state, regional, and local agencies in the development of plans to reduce GHG emissions, but are not applicable to each and every new general development project. The general intent of these plans, however is to reduce statewide GHG emissions to 1990 levels by 2020. SB 32 was recently adopted to reduce GHG emissions 40 percent below 1990 levels by 2030.

TABLE 1 - ESTIMATED PROJECT ANNUAL GHG EMISSIONS - 2020

Emissions Source Category	CO ₂ e in Metric Tons per Year
Construction	7.5
Area Sources	0.3
Energy Sources	5.9
Mobile Sources	14.4
Waste Disposal	0.6
Water & Wastewater	0.7
Total Emissions	29.5
SCAQMD Draft Tier 3 Threshold	3,500.0
Exceeds Threshold?	No

Construction emissions are amortized over 30 years in accordance with SCAQMD guidance (228.98 MTCO₂e/30 years).

The CalEEMod calculations assume the standard statewide engine tiers for the construction equipment operating at the site. The calculations do not assume the use of or requirement for newer engines that meet more stringent USEPA standards. This provides a more conservative analysis of potential construction-related GHG emissions.

The operational emissions shown in this table are the mitigated overall operational emissions totals shown in the CalEEMod results sheets, which assume building energy efficiency as required by the CalGreen Code.

Calculation data sheets are provided in Appendix A.

Although not originally intended to reduce greenhouse gases, California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with a recognition that energy-efficient buildings that require less electricity and reduce fuel consumption, which in turn decreases GHG emissions.

The proposed project would also be subject to the Los Angeles Green Building Code (Ordinance No. 182849), which adopted portions of the current Title 24 California Green Building Standards (CALGreen) Code standards to reduce the use of natural resources, create healthier living environments, and minimize the negative impacts of development on local, regional and global ecosystems. Mandatory measures from the Los Angeles Green Building Code that would be applicable to the project and that would help to reduce potential air pollutant emissions include the following:

Residential Uses

- 99.04.106.4. Electric Vehicle (EV) charging for new construction. New construction shall comply with Section 99.04.106.4.1 and 99.04.106.4.2 to facilitate future installation of electric vehicle supply equipment (EVSE). EVSE and all devices related to EV charging shall be installed in accordance with California Electrical Code, Article 625.

- 99.04.106.4.1. One- and Two-Family Dwellings and Townhouses with Attached Private Garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240 volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or a subpanel and shall terminate in close proximity to the proposed location of the charging system into a listed cabinet, box or other enclosure. Raceways are required to be continuous at enclosed or concealed areas and spaces. A raceway may terminate in an attic or other approved location when it can be demonstrated that the area is accessible and no removal of materials is necessary to complete the final . installation. The panel or subpanel shall have sufficient capacity to support at least Level 2 EVSE.
- 99.04.106.5. Cool Roof for Reduction of Heat Island Effect.
 - 99.04.106.5.1. Solar Reflectance. Roofing material shall have a minimum 3-year aged solar reflectance equal to or greater than 0.63 for a roof slope $\leq 2:12$ or 0.20 for a slope $> 2:12$.
 - 99.04.106.5.2. Thermal Emittance. Roofing material shall have a Cool Roof Rating Council (CRRC) initial or aged thermal emittance equal to or greater than 0.75.
- 99.04.106.7. Reduction of Heat Island Effect for Nonroof Areas. Reduce non roof heat islands for 25 percent of pathways, patios, driveways, or other paved areas.
- 99.04.211.4. Solar Ready Buildings.
- 99.04.211.5. Space for Future Electrical Solar System Installation. With limited exceptions, buildings shall provide a minimum of 250 square feet of contiguous unobstructed roof area for the installation of future solar photovoltaic or other electrical solar panels.

The project would also be subject to the newer building standards of the CalGreen Code which took effect on January 1, 2017.

Based on this information, the proposed project would not conflict with an applicable plan, policy or regulation for the purpose of reducing the emissions of GHGs. The impact of the proposed project would be less than significant.

REFERENCES

California Air Resources Board. December 2008. *Climate Change Scoping Plan*.

California Air Resources Board. January 20, 2017. *The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target*.

California Environmental Protection Agency. March 2006. *Climate Action Team Report to Governor Schwarzenegger and the Legislature.*

California Natural Resources Agency. 2018. *2018 California Environmental Quality Act (CEQA) Statute and Guidelines.* Association of Environmental Professionals.

Los Angeles, City of. December 2013. *Ordinance No. 182849: Los Angeles Green Building Code.*

South Coast Air Quality Management District. December 5, 2008. *Board Meeting Agenda Item 31.*

APPENDIX A -
PROPOSED PROJECT EMISSIONS
CALCULATION DATA

York Residence - Los Angeles-South Coast County, Annual

York Residence
Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.83	1000sqft	0.09	3,829.00	0
Other Non-Asphalt Surfaces	12.08	1000sqft	0.28	12,079.00	0
Single Family Housing	1.00	Dwelling Unit	3.14	15,100.00	3

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	33
Climate Zone	12			Operational Year	2020
Utility Company	Los Angeles Department of Water & Power				
CO2 Intensity (lb/MWhr)	1227.89	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

York Residence - Los Angeles-South Coast County, Annual

Project Characteristics -

Land Use - Project site is 40.46 acres. However, only about 3.14 acres would be affected by ground work.

Construction Phase - Default construction dates changed to reflect anticipated construction schedule.

Off-road Equipment - Architectural Coating Phase - default number of air compressors increased from 1 to 2.

Off-road Equipment - Building Construction Phase - default number of tractors/loaders/backhoes reduced from 3 to 1 due to only one home being constructed and most earthwork completed as part of the grading phase. Also, default number of forklifts reduced from 3 to 1.

Off-road Equipment - Grading Phase - Default equipment numbers changed to reflect proposed equipment mix of one 345 excavator, two D6 dozers, and one track loader.

Off-road Equipment -

Area Coating - Assumes no painting of private on-site driveway driveway.

Construction Off-road Equipment Mitigation - Assumes fugitive dust control (watering) in compliance with SCAQMD Rule 403.

Energy Mitigation - Assumes a minimum building energy efficiency of 15% per CalGreen Code requirements.

Water Mitigation - Assumes indoor water use reductions per CalGreen Code requirements.

Waste Mitigation -

York Residence - Los Angeles-South Coast County, Annual

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	954	0
tblConstructionPhase	NumDays	230.00	245.00
tblConstructionPhase	NumDays	8.00	75.00
tblGrading	AcresOfGrading	0.00	4.00
tblLandUse	LandUseSquareFeet	3,830.00	3,829.00
tblLandUse	LandUseSquareFeet	12,080.00	12,079.00
tblLandUse	LandUseSquareFeet	1,800.00	15,100.00
tblLandUse	LotAcreage	0.32	3.14
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblTripsAndVMT	WorkerTripNumber	10.00	15.00

2.0 Emissions Summary

York Residence - Los Angeles-South Coast County, Annual

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-3-2018	12-2-2018	1.1014	1.1014
2	12-3-2018	3-2-2019	0.5942	0.5942
3	3-3-2019	6-2-2019	0.5319	0.5319
4	6-3-2019	9-2-2019	0.6638	0.6638
5	9-3-2019	9-30-2019	0.1619	0.1619
		Highest	1.1014	1.1014

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	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.3000e-004	1.0000e-005	0.3381
Energy	1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	6.2350	6.2350	1.4000e-004	5.0000e-005	6.2540
Mobile	3.4400e-003	0.0178	0.0480	1.6000e-004	0.0123	1.6000e-004	0.0124	3.2800e-003	1.5000e-004	3.4400e-003	0.0000	14.3956	14.3956	8.0000e-004	0.0000	14.4157
Waste						0.0000	0.0000		0.0000	0.0000	0.2497	0.0000	0.2497	0.0148	0.0000	0.6186
Water						0.0000	0.0000		0.0000	0.0000	0.0207	0.7267	0.7474	2.1400e-003	5.0000e-005	0.8169
Total	0.0675	0.0196	0.0654	1.9000e-004	0.0123	1.2800e-003	0.0135	3.2800e-003	1.2700e-003	4.5600e-003	0.3766	21.5787	21.9553	0.0182	1.1000e-004	22.4432

York Residence - Los Angeles-South Coast County, Annual

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	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.3000e-004	1.0000e-005	0.3381
Energy	1.4000e-004	1.2100e-003	5.2000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	5.8643	5.8643	1.3000e-004	5.0000e-005	5.8818
Mobile	3.4400e-003	0.0178	0.0480	1.6000e-004	0.0123	1.6000e-004	0.0124	3.2800e-003	1.5000e-004	3.4400e-003	0.0000	14.3956	14.3956	8.0000e-004	0.0000	14.4157
Waste						0.0000	0.0000		0.0000	0.0000	0.2497	0.0000	0.2497	0.0148	0.0000	0.6186
Water						0.0000	0.0000		0.0000	0.0000	0.0165	0.6322	0.6487	1.7100e-003	4.0000e-005	0.7044
Total	0.0675	0.0194	0.0654	1.9000e-004	0.0123	1.2700e-003	0.0135	3.2800e-003	1.2600e-003	4.5500e-003	0.3724	21.1135	21.4859	0.0177	1.0000e-004	21.9586

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.03	0.82	0.09	0.00	0.00	0.78	0.07	0.00	0.79	0.22	1.10	2.16	2.14	2.42	9.09	2.16

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	Grading	Grading	9/3/2018	12/14/2018	5	75	
2	Building Construction	Building Construction	12/17/2018	11/22/2019	5	245	
3	Paving	Paving	8/1/2019	8/26/2019	5	18	
4	Architectural Coating	Architectural Coating	11/25/2019	12/18/2019	5	18	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 4

Acres of Paving: 0.37

Residential Indoor: 30,578; Residential Outdoor: 10,193; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 954 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	0	8.00	187	0.41
Grading	Rubber Tired Dozers	2	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	1	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	6.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	2	6.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	2	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	5	7.00	3.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	20.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	2	1.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

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3.2 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.4538	0.0000	0.4538	0.2485	0.0000	0.2485	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1083	1.1567	0.5387	9.5000e-004		0.0584	0.0584		0.0537	0.0537	0.0000	86.8417	86.8417	0.0270	0.0000	87.5175
Total	0.1083	1.1567	0.5387	9.5000e-004	0.4538	0.0584	0.5122	0.2485	0.0537	0.3022	0.0000	86.8417	86.8417	0.0270	0.0000	87.5175

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	6.1245	6.1245	2.3000e-004	0.0000	6.1302
Total	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	6.1245	6.1245	2.3000e-004	0.0000	6.1302

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3.2 Grading - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1770	0.0000	0.1770	0.0969	0.0000	0.0969	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1083	1.1567	0.5387	9.5000e-004		0.0584	0.0584		0.0537	0.0537	0.0000	86.8416	86.8416	0.0270	0.0000	87.5174
Total	0.1083	1.1567	0.5387	9.5000e-004	0.1770	0.0584	0.2354	0.0969	0.0537	0.1507	0.0000	86.8416	86.8416	0.0270	0.0000	87.5174

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	6.1245	6.1245	2.3000e-004	0.0000	6.1302
Total	3.1200e-003	2.6700e-003	0.0287	7.0000e-005	6.1600e-003	6.0000e-005	6.2200e-003	1.6400e-003	5.0000e-005	1.6900e-003	0.0000	6.1245	6.1245	2.3000e-004	0.0000	6.1302

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3.3 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.0860	0.0609	1.0000e-004		5.0700e-003	5.0700e-003		4.8300e-003	4.8300e-003	0.0000	8.8115	8.8115	1.8800e-003	0.0000	8.8584
Total	0.0102	0.0860	0.0609	1.0000e-004		5.0700e-003	5.0700e-003		4.8300e-003	4.8300e-003	0.0000	8.8115	8.8115	1.8800e-003	0.0000	8.8584

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	8.0000e-005	2.0700e-003	5.8000e-004	0.0000	1.0000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4169	0.4169	3.0000e-005	0.0000	0.4176
Worker	2.1000e-004	1.8000e-004	1.9600e-003	0.0000	4.2000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.4192	0.4192	2.0000e-005	0.0000	0.4196
Total	2.9000e-004	2.2500e-003	2.5400e-003	0.0000	5.2000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.6000e-004	0.0000	0.8361	0.8361	5.0000e-005	0.0000	0.8372

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3.3 Building Construction - 2018

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	0.0102	0.0860	0.0609	1.0000e-004		5.0700e-003	5.0700e-003		4.8300e-003	4.8300e-003	0.0000	8.8115	8.8115	1.8800e-003	0.0000	8.8584
Total	0.0102	0.0860	0.0609	1.0000e-004		5.0700e-003	5.0700e-003		4.8300e-003	4.8300e-003	0.0000	8.8115	8.8115	1.8800e-003	0.0000	8.8584

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	8.0000e-005	2.0700e-003	5.8000e-004	0.0000	1.0000e-004	1.0000e-005	1.2000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4169	0.4169	3.0000e-005	0.0000	0.4176
Worker	2.1000e-004	1.8000e-004	1.9600e-003	0.0000	4.2000e-004	0.0000	4.3000e-004	1.1000e-004	0.0000	1.2000e-004	0.0000	0.4192	0.4192	2.0000e-005	0.0000	0.4196
Total	2.9000e-004	2.2500e-003	2.5400e-003	0.0000	5.2000e-004	1.0000e-005	5.5000e-004	1.4000e-004	1.0000e-005	1.6000e-004	0.0000	0.8361	0.8361	5.0000e-005	0.0000	0.8372

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3.3 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1912	1.6534	1.2573	2.1600e-003		0.0931	0.0931		0.0887	0.0887	0.0000	185.8247	185.8247	0.0388	0.0000	186.7941
Total	0.1912	1.6534	1.2573	2.1600e-003		0.0931	0.0931		0.0887	0.0887	0.0000	185.8247	185.8247	0.0388	0.0000	186.7941

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4900e-003	0.0415	0.0113	9.0000e-005	2.2100e-003	2.6000e-004	2.4700e-003	6.4000e-004	2.5000e-004	8.9000e-004	0.0000	8.7773	8.7773	5.9000e-004	0.0000	8.7919
Worker	4.1000e-003	3.4200e-003	0.0372	1.0000e-004	8.9700e-003	8.0000e-005	9.0500e-003	2.3800e-003	7.0000e-005	2.4600e-003	0.0000	8.6270	8.6270	3.0000e-004	0.0000	8.6344
Total	5.5900e-003	0.0449	0.0485	1.9000e-004	0.0112	3.4000e-004	0.0115	3.0200e-003	3.2000e-004	3.3500e-003	0.0000	17.4043	17.4043	8.9000e-004	0.0000	17.4263

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3.3 Building Construction - 2019

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	0.1912	1.6534	1.2573	2.1600e-003		0.0931	0.0931		0.0887	0.0887	0.0000	185.8245	185.8245	0.0388	0.0000	186.7938
Total	0.1912	1.6534	1.2573	2.1600e-003		0.0931	0.0931		0.0887	0.0887	0.0000	185.8245	185.8245	0.0388	0.0000	186.7938

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.4900e-003	0.0415	0.0113	9.0000e-005	2.2100e-003	2.6000e-004	2.4700e-003	6.4000e-004	2.5000e-004	8.9000e-004	0.0000	8.7773	8.7773	5.9000e-004	0.0000	8.7919
Worker	4.1000e-003	3.4200e-003	0.0372	1.0000e-004	8.9700e-003	8.0000e-005	9.0500e-003	2.3800e-003	7.0000e-005	2.4600e-003	0.0000	8.6270	8.6270	3.0000e-004	0.0000	8.6344
Total	5.5900e-003	0.0449	0.0485	1.9000e-004	0.0112	3.4000e-004	0.0115	3.0200e-003	3.2000e-004	3.3500e-003	0.0000	17.4043	17.4043	8.9000e-004	0.0000	17.4263

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3.4 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.1148	0.1108	1.7000e-004		6.4800e-003	6.4800e-003		5.9700e-003	5.9700e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658
Paving	1.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0115	0.1148	0.1108	1.7000e-004		6.4800e-003	6.4800e-003		5.9700e-003	5.9700e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658

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	9.0000e-004	7.5000e-004	8.1700e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8960	1.8960	7.0000e-005	0.0000	1.8977
Total	9.0000e-004	7.5000e-004	8.1700e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8960	1.8960	7.0000e-005	0.0000	1.8977

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3.4 Paving - 2019

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	0.0114	0.1148	0.1108	1.7000e-004		6.4800e-003	6.4800e-003		5.9700e-003	5.9700e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658
Paving	1.2000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0115	0.1148	0.1108	1.7000e-004		6.4800e-003	6.4800e-003		5.9700e-003	5.9700e-003	0.0000	15.0501	15.0501	4.6300e-003	0.0000	15.1658

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	9.0000e-004	7.5000e-004	8.1700e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8960	1.8960	7.0000e-005	0.0000	1.8977
Total	9.0000e-004	7.5000e-004	8.1700e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8960	1.8960	7.0000e-005	0.0000	1.8977

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3.5 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0495					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-003	0.0330	0.0331	5.0000e-005		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	4.5959	4.5959	3.9000e-004	0.0000	4.6056
Total	0.0543	0.0330	0.0331	5.0000e-005		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	4.5959	4.5959	3.9000e-004	0.0000	4.6056

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	5.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0948	0.0948	0.0000	0.0000	0.0949
Total	5.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0948	0.0948	0.0000	0.0000	0.0949

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3.5 Architectural Coating - 2019

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	0.0495					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.8000e-003	0.0330	0.0331	5.0000e-005		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	4.5959	4.5959	3.9000e-004	0.0000	4.6056
Total	0.0543	0.0330	0.0331	5.0000e-005		2.3200e-003	2.3200e-003		2.3200e-003	2.3200e-003	0.0000	4.5959	4.5959	3.9000e-004	0.0000	4.6056

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	5.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0948	0.0948	0.0000	0.0000	0.0949
Total	5.0000e-005	4.0000e-005	4.1000e-004	0.0000	1.0000e-004	0.0000	1.0000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0948	0.0948	0.0000	0.0000	0.0949

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.4400e-003	0.0178	0.0480	1.6000e-004	0.0123	1.6000e-004	0.0124	3.2800e-003	1.5000e-004	3.4400e-003	0.0000	14.3956	14.3956	8.0000e-004	0.0000	14.4157
Unmitigated	3.4400e-003	0.0178	0.0480	1.6000e-004	0.0123	1.6000e-004	0.0124	3.2800e-003	1.5000e-004	3.4400e-003	0.0000	14.3956	14.3956	8.0000e-004	0.0000	14.4157

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	9.52	9.91	8.62	32,282	32,282
Total	9.52	9.91	8.62	32,282	32,282

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
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

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4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907
Other Non-Asphalt Surfaces	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907
Single Family Housing	0.547726	0.045437	0.201480	0.122768	0.016614	0.006090	0.019326	0.029174	0.002438	0.002359	0.005005	0.000677	0.000907

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

Install High Efficiency Lighting

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.4611	4.4611	1.1000e-004	2.0000e-005	4.4702
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	4.6433	4.6433	1.1000e-004	2.0000e-005	4.6528
NaturalGas Mitigated	1.4000e-004	1.2100e-003	5.2000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4032	1.4032	3.0000e-005	3.0000e-005	1.4116
NaturalGas Unmitigated	1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5917	1.5917	3.0000e-005	3.0000e-005	1.6012

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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					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	29827.4	1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5917	1.5917	3.0000e-005	3.0000e-005	1.6012
Total		1.6000e-004	1.3700e-003	5.8000e-004	1.0000e-005		1.1000e-004	1.1000e-004		1.1000e-004	1.1000e-004	0.0000	1.5917	1.5917	3.0000e-005	3.0000e-005	1.6012

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
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
Single Family Housing	26295.4	1.4000e-004	1.2100e-003	5.2000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4032	1.4032	3.0000e-005	3.0000e-005	1.4116
Total		1.4000e-004	1.2100e-003	5.2000e-004	1.0000e-005		1.0000e-004	1.0000e-004		1.0000e-004	1.0000e-004	0.0000	1.4032	1.4032	3.0000e-005	3.0000e-005	1.4116

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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			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	8336.84	4.6433	1.1000e-004	2.0000e-005	4.6528
Total		4.6433	1.1000e-004	2.0000e-005	4.6528

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	8009.71	4.4611	1.1000e-004	2.0000e-005	4.4702
Total		4.4611	1.1000e-004	2.0000e-005	4.4702

6.0 Area Detail

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6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.3000e-004	1.0000e-005	0.3381
Unmitigated	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.3000e-004	1.0000e-005	0.3381

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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	4.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0556					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	2.6000e-004	6.3600e-003	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.1062	0.2041	0.3103	3.2000e-004	1.0000e-005	0.3204
Landscaping	3.3000e-004	1.2000e-004	0.0106	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0172	0.0172	2.0000e-005	0.0000	0.0177
Total	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.4000e-004	1.0000e-005	0.3381

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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	4.7200e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.0556					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	2.6000e-004	6.3600e-003	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.1062	0.2041	0.3103	3.2000e-004	1.0000e-005	0.3204
Landscaping	3.3000e-004	1.2000e-004	0.0106	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0172	0.0172	2.0000e-005	0.0000	0.0177
Total	0.0639	3.8000e-004	0.0169	2.0000e-005		1.0100e-003	1.0100e-003		1.0100e-003	1.0100e-003	0.1062	0.2214	0.3276	3.4000e-004	1.0000e-005	0.3381

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

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.6487	1.7100e-003	4.0000e-005	0.7044
Unmitigated	0.7474	2.1400e-003	5.0000e-005	0.8169

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.065154 / 0.0410754	0.7474	2.1400e-003	5.0000e-005	0.8169
Total		0.7474	2.1400e-003	5.0000e-005	0.8169

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0.0521232 / 0.0410754	0.6487	1.7100e-003	4.0000e-005	0.7044
Total		0.6487	1.7100e-003	4.0000e-005	0.7044

8.0 Waste Detail

8.1 Mitigation Measures Waste

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.2497	0.0148	0.0000	0.6186
Unmitigated	0.2497	0.0148	0.0000	0.6186

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		0.2497	0.0148	0.0000	0.6186

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8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		0.2497	0.0148	0.0000	0.6186

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
