

CalEEMod Emission Summary

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SUBJECT: Summary of CalEEMod Model Runs and Output for the Moiola Park Residential Project

SECTION 1: PROJECT INFORMATION

1.1 - Project Name

Moiola Park Residential Project

1.2 - Project Location

The project site is located in northern Orange County and within the southern portion of the City of Fountain Valley, south of Interstate 405 (I-405). The address of the property is 9790 Finch Avenue. The site is within the Newport Beach United State Geological Survey (USGS) 7.5-Minute Quadrangle and Section 31, Township 5 South, Range 10 West.

1.3 - Project Description

The project would demolish the existing buildings on the property and would redevelop an approximately 13 acre parcel with a new single-family residential community including a 1.02-acre public park. The residential community would provide 74 single family residential homes on separate parcels.

1.4 - Purpose of the Report

This report has been prepared to summarize the results of estimates of project construction and operational criteria pollutant and greenhouse gas (GHG) emissions and energy usage using the California Emissions Estimator Model (CalEEMod Version 2016.3.2) land use emission model for use in preparing CEQA regulatory documentation. The project emissions were estimated for the project design and the emissions were compared to the recommended air quality and GHG significance thresholds adopted and/or recommended by the South Coast Air Quality Management District (SCAQMD).

1.5 - Conclusions

- The construction and operation of the project would not exceed any project-level criteria pollutant regional or localized emission significance threshold adopted by the SCAQMD.
- The construction and operation of the project would not exceed the greenhouse gas significance threshold adopted for this project
- The construction and operation of the project would not result in a cumulatively significant impact on the region's air quality

- The construction and operation of the project would not result in the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and/or natural gas, and/or the use of fuel by vehicles anticipated to travel to and from the project.

SECTION 2: CALEEMOD EMISSION ESTIMATES – CRITERIA POLLUTANTS

This section quantifies the project construction and operational criteria pollutant emissions¹ for the project design and compares the emissions to regional and local emission significance thresholds adopted by the SCAQMD.

2.1 - Significance Thresholds-Criteria Pollutants

The SCAQMD has adopted several criteria pollutant significance thresholds that apply to the construction and operation of projects located within the jurisdiction of the SCAQMD.

2.1.1 Regional Emission Significance Thresholds

The incremental regional air quality impacts of an individual project are generally very small and difficult to measure. However, the SCAQMD's regional significance thresholds define levels of maximum daily emissions whose exceedance by a project's construction or operation may add to the overall emission burden within the SCAQMD and impact the attainment and maintenance of ambient air quality standards.

The regional thresholds apply to criteria pollutant emissions of carbon monoxide (CO), oxides of nitrogen (NO_x), oxides of sulfur (SO_x), particulate matter (PM₁₀ and PM_{2.5}), and reactive organic gases (ROG). The quantification of regional emissions includes those project emissions generated from both onsite emission sources (i.e., offroad construction equipment, fugitive dust) and offsite emission sources (vehicle travel to and away from the project). The SCAQMD's regional significance thresholds are shown in Table 1.

Table 1: SCAQMD Regional Emission Significance Thresholds

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
Carbon Monoxide	550	550
Oxides of Nitrogen	100	55
Sulfur Oxides	150	150
PM ₁₀	150	150
PM _{2.5}	55	55
Reactive Organic Gases	75	55
Source: SCAQMD ²		

¹Criteria pollutants are the only air pollutants with national air quality standards that define allowable concentrations of these substances in the ambient air. Criteria pollutants include carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur dioxide (SO₂), and particulate matter (PM₁₀ and PM_{2.5}). Note that ozone is another criteria pollutant; however in terms of defining significance thresholds, ozone is represented by its precursor components, oxides of nitrogen (NO_x) and reactive organic gases.

² SCAQMD April 2019. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf>

2.1.2 Localized Significance Thresholds

Project-related construction or operational air emissions may have the potential to exceed the State and national air quality standards in the project vicinity, even though these pollutant emissions may not be significant enough to create a regional impact on the SCAQMD. As a result, the SCAQMD has also adopted localized significance thresholds (LSTs) that represent the maximum rates of daily construction or operational emissions from a project site that would not result in air pollutant levels that would exceed a national or State ambient air quality standards (SCAQMD 2003³,2008⁴). There are three principal differences between the regional thresholds and the LSTs. First, the regional thresholds include all sources of project construction and operational emissions generated from both onsite and offsite emission sources whereas the LSTs only consider the emissions generated from onsite emission sources. Second, the LSTs only apply to CO, NO_x, and particulate matter (PM₁₀ and PM_{2.5}) while the regional thresholds include both ROG and SO_x. Third, the regional thresholds apply to emission sources regardless of where the source is located within the SCAQMD whereas the LSTs are location-dependent and also depend on the size of the project and emission location relative to the nearest sensitive receptor⁵.

For purposes of this localized assessment, the SCAQMD provides screening emission look-up tables for projects that disturb less than or equal to 5 acres in size in a day. The look-up tables were developed by the SCAQMD to readily determine if the daily emissions of CO, NO_x, PM₁₀, and PM_{2.5} from a project could result in a significant impact on the local air quality. The appropriate LSTs can be determined based on the project's source receptor area (SRA)⁶, size, and distance to nearest sensitive receptor. The SCAQMD has divided the SCAQMD into 37 SRAs each with a set of LSTs that depend on the air pollutant, project size, and distance to the nearest sensitive receptor. The project site is located within SRA 17, Central Orange County.

LSTs for Construction

The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (SCAQMD 2011)⁷. The CalEEMod model calculates construction emissions based on the number and types of construction equipment, equipment hours, rates of emission, and the maximum daily disturbance activity possible for each piece of equipment for several land use projects and their developmental intensity. The daily maximum disturbed area during construction serves as a factor in determining the project size value of the LSTs for construction. Table 2 shows the maximum daily disturbed acreage during demolition, site preparation, and grading based on the types and numbers of construction equipment used for each construction activity as identified by the CalEEMod model. As shown in Table 2, the maximum daily area disturbed during construction is 4.0 acres occurring during the grading activity. Therefore, the maximum daily disturbed area during construction was set as 4.0 acres for the localized assessment of construction impacts.

³ SCAQMD 2003. Final Localized Significance Threshold Methodology. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2>

⁴ SCAQMD 2008: Final Localized Significance Threshold Methodology. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf>

⁵ A sensitive receptor is defined as an individual who is most health-wise susceptible to exposures to air pollutants including children the elderly, and adults with chronic health issues. Such receptors include residences, schools, elderly care centers, and hospitals where such receptors could be exposed to air pollutants for at least 24 hours.

⁶ A source-receptor area (SRA) is a geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts

⁷ SCAQMD 2011: Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. Website: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/caleemod-guidance.pdf>

Table 2: Equipment Specific Site Preparation and Grading Disturbed Area Rates

Activity	Equipment Type	Equipment Quantity	Acres Graded per 8-hour Day	Operating Hours per Day	Acres Graded per Day
Demolition	Concrete/Industrial Saws	1	0	8	0
	Excavator	3	0	8	0
	Rubber Tired Dozers	2	0.5	8	1
	Total: 1 acre				
Site Preparation	Rubber Tired Dozer	3	0.5	8	1.5
	Crawler Tractor	4	0.5	8	2.0
	Total 3.5 acres				
Grading	Excavators	2	0	8	0
	Graders	1	0.5	8	0.5
	Rubber Tired Dozers	1	0.5	8	0.5
	Crawler Tractor	2	0.5	8	1
	Scraper	2	1	8	2
	Total 4.0 acres				
Source: The construction inventory developed for the Demolition, Site Preparation and Grading activities is presented Table 6 below as derived from the CalEEMod model.					

The specification of LSTs is also dependent on the distance to the nearest sensitive receptor. The nearest sensitive receptor areas to the project are the existing residences located adjacent to the project's western, northern, and southern boundaries (less than 10 meters distance). Within the LST methodology, the distance to the nearest sensitive receptor was set as 25 meters, the shortest distance contained in the SCAQMD's LST lookup tables as per the SCAQMD LST guidance. Table 3 provides the applicable construction LSTs for this project.

Table 3: Construction Localized Significance Thresholds

NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
160	1,074	11	6
LSTs for SRA 17, project area of 4.0 acres and a receptor distance of 25 meters. The LSTs were interpolated from the 2 and 5 acre LSTs provided in the LST lookup tables.			

LST for Operation

As noted earlier, the SCAQMD has defined LSTs for project areas up to 5 acres in size. The project is approximately 13 acres. To provide a conservative estimate of the operational LSTs for this project, the LSTs were based on a 5 acre project, the largest project size contained in the LST lookup tables. This

assumption will provide a conservative impact estimate (in terms of over-estimating local impacts) since if LSTs were available to a 13 acre project, the resulting LSTs would be larger than the LSTs for a 5 acre project since the LSTs increase with project size. Therefore, the use of the LSTs for a 5-acre project provides a conservative estimate of the project's operational LSTs. Table 4 provides the operational LSTs for this project.

Table 4: Operational Localized Significance Thresholds

NO _x (lbs/day)	CO (lbs/day)	PM ₁₀ (lbs/day)	PM _{2.5} (lbs/day)
183	1,253	3	2
LSTs for SRA 17, project area of 5 acres and a receptor distance of 25 meters			

2.1.3 Cumulative Significance Thresholds

The SCAQMD has published the following report on how to address cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD 2003)⁸. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. Therefore, the project-specific and cumulative significance thresholds are the same. As a result, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

The South Coast Air Basin where the project is located is currently designated by the US Environmental Protection Agency as nonattainment for ozone, PM₁₀, and PM_{2.5}. By its nature, air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants is a result of past and present development within the air basin, and this regional impact is a cumulative impact. In other words, new development projects (such as the proposed project) within the air basin would contribute to this impact only on a cumulative basis. No single project would be sufficient in size, by itself, to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

The determination of cumulative air quality impacts for construction and operational emissions was, therefore, based on whether the project would result in regional emissions that exceed SCAQMD regional thresholds of significance for construction and operations on a project level. Projects that generate emissions below the SCAQMD regional significance thresholds would be considered consistent with regional air quality planning efforts and would not generate cumulatively considerable emissions.

⁸ South Coast Air Quality Management District (SCAQMD) 2003. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution

2.2 - Criteria Pollutant Emission and Impact Estimates

2.2.1 Project Emissions

Construction

Assumptions

- Construction Schedule: Construction is anticipated to commence in January 2021 and last for approximately 16 months. The first phase of occupancy is expected in mid-2022
- Soil import (30,000 cubic yards) with associated haul truck trips
- Demolition of the existing structures and asphalt hardscape with removal of the demolition debris;
- Fugitive dust mitigation applied as per SCAQMD Rule 403 – Fugitive Dust
- Construction equipment inventory derived from the CalEEMod model equipment

Construction Emissions

The project's conceptual construction schedule and equipment inventory are provided in Table 5 and Table 6, respectively based on the default schedule and equipment provided in the CalEEMod model for the project size and land use. The project's construction vehicle trips are shown in Table 7.

Table 5: Construction Schedule

Activity	Start Date	End Date	Total Days
Demolition	1/04/2021	1/29/2021	20
Site Preparation	1/30/2021	2/12/2021	10
Grading	2/13/2021	3/26/2021	30
Building Construction	3/27/2021	5/20/2022	300
Paving	5/21/2022	6/17/2022	20
Architectural Coating	6/18/2022	7/15/2022	20
Source: see CalEEMod output			

Table 6: Construction Equipment Inventory

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor
Demolition	Concrete/industrial saws	1	8	81	0.73
	Excavator	3	8	158	0.36
	Rubber Tired Dozer	2	8	247	0.40
Site Preparation	Rubber Tired Dozer	3	8	247	0.40
	Crawler Tractor	4	8	212	0.43
Grading	Excavators	2	8	158	0.38
	Graders	1	8	187	0.41
	Rubber Tired Dozers	1	8	247	0.40
	Crawler Tractor	2	8	212	0.43
	Scraper	2	8	367	0.48
Building Construction	Crane	1	7	231	0.29
	Forklifts	3	8	89	0.20
	Tractors/Loaders/Backhoes	3	7	97	0.37
	Welders	1	8	46	0.45
	Generator Set	1	8	84	0.74
Paving	Pavers	2	8	130	0.42
	Paving Equipment	2	8	132	0.36
	Rollers	2	8	80	0.38
Architectural Coating	Air Compressor	1	6	78	0.48
Source: see CalEEMod output					

Table 7: Construction Vehicle Trips

Activity	Construction Trips per Day		Total Trips
	Worker	Vendor	Haul
Demolition	15	0	844
Site Preparation	18	0	0
Grading	20	0	3,750
Building Construction	27	8	0
Paving	15	0	0
Architectural Coating	5	0	0
Source: see CalEEMod output			

The project's estimated maximum daily regional construction emissions are shown in Table 8. As noted in Table 8, the construction of the project would not exceed the SCAQMD's regional emission significance thresholds. Table 9 presents the results of the project's localized construction impact assessment.

Table 8: Estimated Maximum Daily Regional Construction Emissions

Construction Activity	Maximum Daily Regional Emissions ⁽¹⁾ (pounds/day)					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
2021						
Demolition	3.6	43.2	25.0	<0.1	5.4	2.0
Site Preparation	5.4	60.8	22.4	0.1	8.6	5.7
Grading	5.9	88.3	40.5	0.2	7.5	4.1
Maximum Daily Emission	5.9	88.3	40.5	0.2	8.6	5.7
2022						
Building Construction	1.8	16.4	16.5	<0.1	1.2	0.9
Paving	1.2	11.1	15.0	<0.1	0.8	0.5
Architectural Coating	41.9	1.4	1.9	<0.1	0.2	0.1
Maximum Daily Emission	41.9	16.4	16.5	<0.1	1.2	0.9
2021 to 2022 Maximum Daily Emissions	41.9	88.3	40.5	0.2	8.6	5.7
SCAQMD Significance Thresholds	75	100	550	150	150	55
Emissions Exceed Thresholds?	No	No	No	No	No	No
Notes: ROG = reactive organic gases NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide SO _x = sulfur oxides PM emissions reflect SCAQMD Rule 403 reductions Source: see CalEEMod model output						

As noted in Table 9, the construction of the project would not exceed the SCAQMD's construction localized emission significance thresholds.

Table 9: Estimated Maximum Daily Localized Construction Emissions

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
2021				
Demolition	31.4	21.6	4.5	1.8
Site Preparation	60.8	21.5	8.4	5.6
Grading	56.5	31.2	5.0	3.3
Building Construction	17.4	16.6	1.0	0.9
Maximum Daily Emission	60.8	31.2	8.4	5.6
2022				
Building Construction	15.6	16.4	0.8	0.8
Paving	11.1	14.6	0.6	0.5
Architectural Coating	1.4	1.8	0.1	0.1
Maximum Daily Emission	15.6	16.4	0.8	0.8
2021 to 2022 Maximum Daily Emissions	60.8	31.2	8.4	5.6
SCAQMD Significance Thresholds	160	1,074	11	6
Emissions Exceed Thresholds?	No	No	No	No
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide PM emissions reflect SCAQMD Rule 403 emission reductions Source: see CalEEMod model output				

Project Operational Emissions

Long-term operational emissions would be generated resulting from the day-to-day operations. Operational emissions for land use development projects are typically distinguished as mobile, area, and energy-source emissions. Mobile-source emissions are those associated with automobiles that would travel to and from the project site. Area-source emissions are those associated with landscape maintenance activities and periodic architectural coatings. Energy-source emissions are those associated with natural gas consumption.

Mobile sources constitute the largest source of operational emissions. Based on the intended project land uses, the project is expected to generate 699 weekday daily trips⁹. The project's operational vehicles were assumed to consist of light duty automobiles, light duty trucks, and medium duty trucks as representative of the types of vehicles that would be associated with a residential project. For the regional analysis of operational emissions, the vehicle trip distances for the various vehicle activities assumed the default trip distances contained in the CalEEMod model. For the localized assessment, an average onsite vehicle trip

⁹ Based on information derived from the Project Trip Generation Report

travel distance for the project was assumed to be 0.1 miles based on the layout of the site plan (since only onsite emissions are counted in the localized assessment).

Table 10 summarizes the project's regional operational emissions along with a comparison to the SCAQMD's regional significance thresholds. As noted in Table 10, the project's regional operational emissions are less than the regional significance thresholds. Table 11 provides the results of the localized operational emissions along with a comparison to the SCAQMD localized significance thresholds. As noted in Table 11, the project's localized operational emissions are substantially less than the SCAQMD localized thresholds.

Table 10: Estimated Maximum Daily Regional Operational Emissions

Operational Activity	Maximum Daily Regional Emissions (pounds/day)				
	ROG	NO _x	CO	PM ₁₀	PM _{2.5}
Area	3.0	0.1	6.1	<0.1	<0.1
Energy	0.1	0.5	0.2	<0.1	<0.1
Mobile	0.8	0.9	12.9	5.2	1.4
Total Project Operational Emissions	3.9	1.5	19.3	5.3	1.5
SCAQMD Significance Threshold	55	55	550	150	55
Exceed Threshold?	No	No	No	No	No
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter ROG = reactive organic gases PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide Source: see CalEEMod model output					

Based on the information contained in Table 10 and Table 11, the operation of the project would not exceed the SCAQMD's regional or localized operational significance thresholds.

Table 11: Estimated Maximum Daily Localized Operational Emissions

Operational Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO _x	CO	PM ₁₀	PM _{2.5}
Area	0.1	0.1	<0.1	<0.1
Energy	0.5	0.2	<0.1	<0.1
Mobile	0.1	1.9	0.1	<0.1
Total Project Operational Emissions	0.7	2.2	0.1	0.1
SCAQMD Significance Threshold	183	1,253	3	2
Exceed Threshold?	No	No	No	No
Notes: NO _x = oxides of nitrogen PM ₁₀ = particulate matter 10 microns or less in diameter PM _{2.5} = particulate matter 2.5 microns or less in diameter CO = carbon monoxide Source: see CalEEMod model output				

2.2.2 Cumulative Impacts

Construction

As shown above in Table 8, the project's maximum daily regional construction emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the project's construction emissions would not result in a cumulatively considerable incremental contribution to the existing cumulative air quality impacts. Furthermore, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 403 to minimize fugitive PM dust emissions. Therefore, the cumulative impact from the construction of the project would be less than significant.

Operations

As shown above in Table 10, the project's maximum daily operational emissions would not exceed SCAQMD's regional thresholds of significance. Therefore, the project's operational emissions would not result in a cumulatively considerable incremental contribution to the existing cumulative air quality impacts. The cumulative impact from long-term operation of the project would be less than significant.

2.3 - Conclusions

The project's construction and operational emissions would not exceed the SCAQMD's established project level or cumulative regional or localized pollutant significant thresholds during either construction or operation.

SECTION 3: CALEEMOD EMISSION ESTIMATES - GREENHOUSE GAS EMISSIONS

This section analyzes the potential impacts on climate change from the project's emissions of various greenhouses (GHG).

3.1 - Significance Threshold

The City of Fountain Valley has not adopted a numerical significance threshold for GHG. To guide lead agencies on determining significance for GHG emissions in their CEQA documents, SCAQMD convened a GHG CEQA Significance Threshold Working Group (Working Group). Based on the last Working Group meeting (Meeting No. 15) held in September 2010, SCAQMD proposed a tiered approach for evaluating GHG emissions for development projects where the SCAQMD is not the lead agency. This concept is equivalent to the existing consistency determination requirements in CEQA Guidelines Sections 15064(h)(3), 15125(d), or 15152(a). The SCAQMD has continued to consider the adoption of significance thresholds for residential and general development projects. The most recent proposal issued in September 2010 (SCAQMD 2010¹⁰) uses a tiered approach to evaluate potential GHG impacts from various land uses. This assessment will apply the Tier 3 approach that provides as follows:

- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the project is less than significant:
 - o Option 1: All land use types: 3,000 MT CO₂e per year
 - o Option 2: Based on land use type: residential: 3,500 MT CO₂e per year; commercial: 1,400 MT CO₂e per year; or mixed use: 3,000 MT CO₂e per year

The SCAQMD's draft threshold uses the Executive Order S-3-05 year 2050 goal as the basis for the Tier 3 screening level. Achieving the Executive Order's objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 ppm, thus stabilizing global climate. For purposes of examining potential GHG impacts from this project, the Tier 3 screening level for all land use projects of 3,000 MT CO₂e was selected as the significance threshold.

3.2 - Estimation of GHG Emissions

3.2.1 Construction

The project's construction GHG emissions are summarized in Table 12.

¹⁰ SCAQMD 2010. Minutes of the GHG CEQA Significance Threshold Stakeholder Working Group #15. Website: [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf)

Table 12: Project Construction GHG Emissions

Activity	Annual GHG Emissions (MTCO ₂ e)
2020	612
2021	163
Total Emissions	775
Total Emissions Amortized Over 30 years	26
Source: see CalEEMod output	

3.2.2 Operations

It should be noted that the 2019 California Building Energy Efficiency Standards mandates the installation of residential solar generation to offset combustion emissions associated with electricity generation. The new standards require that all new homes under three stories high install solar panels starting January 1, 2020 and that solar systems must be sized to net out the annual kilowatt-hour energy usage of the dwelling. For the purposes of this study, however, it was assumed as a worst case that no residential solar was installed thereby maximizing the emissions from the generation of electricity.

The project's operational GHG emissions are summarized in Table 13 along with the construction GHG emissions and the total project GHG emissions.

Table 13: Project Net Operational GHG Emissions

Activity	Annual GHG Emissions (MTCO ₂ e)
Project Operational Emissions	
Area	1
Energy	292
Mobile	744
Waste	44
Water	37
Total	1,119
Project Construction Emissions	26
Project Construction and Operation	1,145
Significance Threshold	3,000
Project Exceeds Threshold?	No
Source: see CalEEMod output	

3.3 - Conclusion

As noted from the results shown in Table 13 above, the project's construction and operational emissions are well below the SCAQMD significance threshold of 3,000 MTCO₂e per year adopted for this project.

SECTION 4: PROJECT FUEL AND ENERGY CONSUMPTION

4.1 - Assumptions

- Construction equipment fuel consumption derived from ARB Offroad2017 emission model and the CalEEMod construction equipment
- Fuel Consumption from vehicle travel derived from ARB EMFAC2017 emission model
- Electrical and natural gas usage derived from the CalEEMod model

4.2 - Significance Thresholds

Neither Appendix F of the State CEQA Guidelines nor PRC Section 21100(b)(3)) provides a numerical threshold of significance that might be used to evaluate the potential significance of energy consumption of a proposed project. Rather, the emphasis is on reducing “the wasteful, inefficient, and unnecessary consumption of energy.” Based on this focus of the guidelines, for purposes of this report, the proposed project would have a significant impact related to energy consumption if it would:

- Involve the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as coal, natural gas, and petroleum, associated with project design, project location, the use of electricity and/or natural gas, and/or the use of fuel by vehicles anticipated to travel to and from the project.

4.3 - Construction

4.3.1 Electricity and Natural Gas Usage

Temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers would be provided by Southern California Edison Company. The electricity used for such activities would be temporary and would be substantially less than that required for project operation and would have a negligible contribution to the project’s overall energy consumption.

Natural gas is not anticipated to be required during construction of the proposed project. Fuels used for construction would primarily consist of diesel and gasoline, which are discussed below under the “petroleum” subsection. Any minor amounts of natural gas that may be consumed as a result of project construction would be substantially less than that required for project operation and would have a negligible contribution to the project’s overall energy consumption.

4.3.2 Petroleum Fuel Usage

Off-road heavy-duty construction equipment associated with construction activities would rely on diesel fuel as would vendor and haul trucks involved in delivering building materials and removing the demolition debris from the project site. Construction workers would travel to and from the project site throughout the duration of construction. It is assumed in this analysis that construction workers would travel to and from the site in gasoline-powered passenger vehicles. The fuel usage for the off-road construction equipment is provided in Table 15. These estimates are based on the total fuel consumption and horsepower-hour data contained within the ARB OFFROAD2017 emission model for specific types of diesel

construction equipment to be employed in the project construction. It should be noted that the total fuel consumption during construction computed below likely substantially overstates the amount of fuel usage. Although construction equipment is listed under a particular construction activity, there is a likelihood that the particular equipment will not operate over the entire duration of the construction activity. For example, during building construction, a crane is listed as one of the operational pieces of equipment. However, the crane would not operate over the entire duration of 300 days assumed during the building construction activity.

Table 16 summarizes the project's construction vehicle fuel usage. The fuel usage is based on the vehicle type (worker vehicle, vendor vehicle, and haul truck), vehicle miles traveled, and fuel usage factors contained in the ARB EMFAC2017 mobile source emission model and as estimated in the CalEEMod model. The total fuel construction during construction is summarized in Table 17.

4.4 - Operational Energy Requirements

The project's operational energy requirements are summarized in Table 18.

4.5 - Conclusion

Construction of the project would result in fuel consumption from the use of construction tools and equipment, vendor and haul truck trips, and vehicle trips generated from construction workers traveling to and from the site. Construction activities and corresponding fuel energy consumption would be temporary and localized, as the use of diesel fuel and heavy-duty equipment would not be a typical operational condition of the project. In addition, there are no unusual project characteristics that would cause the use of construction equipment that would be less energy efficient compared with other similar construction sites in other parts of the State. The rational goal of any construction job, whether it be for a household task or construction project such as the proposed project, is to minimize construction costs while meeting all legal requirements for doing so. Therefore, construction-related fuel consumption by the project would not result in inefficient, wasteful, or unnecessary energy use compared with other construction sites in the region.

Operation of the project would involve the development of 74 residential single family dwelling units. According to CEQA Guidelines Appendix F, the goal of conserving energy implies the wise and efficient use of energy, including decreasing overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The project would comply with all of the energy efficiency requirements under all applicable State, county, and local business and energy code ordinances. As a result, the operation of the project would not result in inefficient, wasteful, or unnecessary energy use compared with other similar residential projects in the region.

Table 14: Construction Equipment Fuel Usage

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Demolition	Concrete/industrial saws	1	8	81	0.73	20	9,461	0.023965	227
	Excavator	3	8	158	0.36	20	27,302	0.019763	540
	Rubber Tired Dozer	2	8	247	0.4	20	31,616	0.020461	647
Site Preparation	Rubber Tired Dozer	3	8	247	0.4	10	23,712	0.020461	485
	Crawler Tractor	4	8	212	0.43	10	29,171	0.022173	647
Grading	Excavators	2	8	158	0.38	30	28,819	0.019763	570
	Graders	1	8	187	0.41	30	18,401	0.021143	389
	Rubber Tired Dozers	1	8	247	0.4	30	23,712	0.020461	485
	Crawler Tractor	2	8	212	0.43	30	43,757	0.022173	970
	Scrapers	2	8	367	0.48	30	84,557	0.024983	2,112
Building Construction	Crane	1	7	231	0.29	300	140,679	0.014896	2,096
	Forklifts	3	8	89	0.2	300	128,160	0.019105	2,449
	Tractors/Loaders/Backhoes	3	7	97	0.37	300	226,107	0.023965	5,419
	Welders	1	8	46	0.45	300	49,680	0.023965	1,191
	Generator Set	1	8	84	0.74	300	149,184	0.023965	3,575
Paving	Pavers	2	8	130	0.42	20	17,472	0.021525	376
	Paving Equipment	2	8	132	0.36	20	15,206	0.018334	279
	Rollers	2	8	80	0.38	20	9,728	0.019412	189
Architectural Coating	Air Compressor	1	6	78	0.48	20	4,493	0.023965	108

TOTAL 22,751

Table 15: Estimated Project Vehicle Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	14,039	0
Vendor Trucks	1,940	0
Worker Vehicles	0	4,994
Construction Vehicles Total	15,980	4,994
Source: see Construction Fuel Usage Spreadsheet		

Table 16: Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	15,980	4,994
Off-road Construction Equipment	22,751	0
Construction Total	38,731	4,994
Source: see Construction Fuel Usage Spreadsheet		

Table 17: Project Annual Operational Energy Requirements

Operational Source (value per year)		
	Annual VMT	1000 Gallons of Gasoline Fuel
Transportation – Project	2,370,107	66,363
	Kilowatt-Hours	
Electricity – Project	593,372	
	Thousands British Thermal Units	
Natural Gas – Project	1.91 million	
Note: (1) Based on an average gasoline consumption rate of 28 mile/gallon based on EMFAC2017 Source: see Fuel Usage Spreadsheet and CalEEMod output		

CalEEMod Model Spreadsheet Output

CalEEMod Model Output: Project – Summer	Page 1
CalEEMod Model Output: Project – Winter	30
CalEEMod Model Output: Project – Annual	59
CalEEMod Model Output: Project – Operational LST – Summer	93
Estimation of Demolition Debris Existing Buildings	109
Construction Fuel Usage	110

Moiola Park Residences - Orange County, Summer

Moiola Park Residences

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	74.00	Dwelling Unit	13.00	133,200.00	212

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Moiola Park Residences - Orange County, Summer

Project Characteristics - Project Description

Land Use - Project Description

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Trips and VMT - Total debris truck trips: 8441 tons/20 tons/truckx2trips per truck

Demolition - Tons of debris from demolition of the existing school

Grading - Project Description

Vehicle Trips - Weekday trip rate derived from Traffic Study

Sat and Sun trip rates derived from CalEEMod default rates

Woodstoves - Assumes no woodstoves or fireplaces

Construction Off-road Equipment Mitigation - 3x Daily Watering as per

[http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt)

Fleet Mix - Project vehicles assumed to consist of LDA, LDT, and MDV vehicle classes as representative of a residential fleet mix

Percentages reflect redistribution of the fleet mix into the above vehicle classes

Construction Phase -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	68
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	68
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	62.90	0.00

Moiola Park Residences - Orange County, Summer

tblFireplaces	NumberNoFireplace	7.40	0.00
tblFireplaces	NumberWood	3.70	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.61
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialImported	0.00	30,000.00
tblLandUse	LotAcreage	24.03	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	835.00	844.00
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	8.62	8.58
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	3.70	0.00

Moiola Park Residences - Orange County, Summer

tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Moiola Park Residences - Orange County, Summer

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8909	88.3649	40.5652	0.1679	18.2675	2.6473	20.9148	9.9840	2.4355	12.4196	0.0000	17,669.12 91	17,669.12 91	3.3365	0.0000	17,752.54 20
2022	41.8949	16.3791	17.3253	0.0316	0.3529	0.8123	1.1652	0.0948	0.7642	0.8590	0.0000	3,040.820 0	3,040.820 0	0.7171	0.0000	3,056.665 1
Maximum	41.8949	88.3649	40.5652	0.1679	18.2675	2.6473	20.9148	9.9840	2.4355	12.4196	0.0000	17,669.12 91	17,669.12 91	3.3365	0.0000	17,752.54 20

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.8909	88.3649	40.5652	0.1679	5.9824	2.6473	8.6297	3.2312	2.4355	5.6667	0.0000	17,669.12 91	17,669.12 91	3.3365	0.0000	17,752.54 20
2022	41.8949	16.3791	17.3253	0.0316	0.3529	0.8123	1.1652	0.0948	0.7642	0.8590	0.0000	3,040.820 0	3,040.820 0	0.7171	0.0000	3,056.665 1
Maximum	41.8949	88.3649	40.5652	0.1679	5.9824	2.6473	8.6297	3.2312	2.4355	5.6667	0.0000	17,669.12 91	17,669.12 91	3.3365	0.0000	17,752.54 20

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	65.98	0.00	55.64	67.00	0.00	50.86	0.00	0.00	0.00	0.00	0.00	0.00

Moiola Park Residences - Orange 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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.7745	0.9322	12.9005	0.0493	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,919.4971	4,919.4971	0.0924		4,921.8060
Total	3.8812	1.4848	19.2174	0.0527	5.1880	0.1049	5.2929	1.3753	0.1024	1.4777	0.0000	5,545.9818	5,545.9818	0.1148	0.0113	5,552.2134

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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.7745	0.9322	12.9005	0.0493	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,919.4971	4,919.4971	0.0924		4,921.8060
Total	3.8812	1.4848	19.2174	0.0527	5.1880	0.1049	5.2929	1.3753	0.1024	1.4777	0.0000	5,545.9818	5,545.9818	0.1148	0.0113	5,552.2134

Moiola Park Residences - Orange 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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/26/2021	5	30	
4	Building Construction	Building Construction	3/27/2021	5/20/2022	5	300	
5	Paving	Paving	5/21/2022	6/17/2022	5	20	
6	Architectural Coating	Architectural Coating	6/18/2022	7/15/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 269,730; Residential Outdoor: 89,910; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0
(Architectural Coating – sqft)

OffRoad Equipment

Moiola Park Residences - Orange County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Moiola Park Residences - Orange 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
Demolition	6	15.00	0.00	844.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					9.0315	0.0000	9.0315	1.3674	0.0000	1.3674			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	3.1651	31.4407	21.5650	0.0388	9.0315	1.5513	10.5828	1.3674	1.4411	2.8085		3,747.944 9	3,747.944 9	1.0549		3,774.317 4

Moiola Park Residences - Orange County, Summer

3.2 Demolition - 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	0.3039	10.7279	2.9471	0.0318	0.7347	0.0337	0.7684	0.2011	0.0323	0.2334		3,555.847 2	3,555.847 2	0.3687		3,565.063 9
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	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136
Total	0.3581	10.7606	3.4027	0.0334	0.9024	0.0348	0.9372	0.2456	0.0333	0.2788		3,713.676 4	3,713.676 4	0.3720		3,722.977 5

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8901	0.0000	2.8901	0.4376	0.0000	0.4376			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	3.1651	31.4407	21.5650	0.0388	2.8901	1.5513	4.4414	0.4376	1.4411	1.8787	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4

Moiola Park Residences - Orange County, Summer

3.2 Demolition - 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	0.3039	10.7279	2.9471	0.0318	0.7347	0.0337	0.7684	0.2011	0.0323	0.2334		3,555.847 2	3,555.847 2	0.3687		3,565.063 9
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	0.0541	0.0328	0.4556	1.5800e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		157.8291	157.8291	3.3800e-003		157.9136
Total	0.3581	10.7606	3.4027	0.0334	0.9024	0.0348	0.9372	0.2456	0.0333	0.2788		3,713.676 4	3,713.676 4	0.3720		3,722.977 5

3.3 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343		5,523.504 7	5,523.504 7	1.7864		5,568.165 1
Total	5.3428	60.7861	21.8537	0.0570	18.0663	2.6460	20.7123	9.9307	2.4343	12.3650		5,523.504 7	5,523.504 7	1.7864		5,568.165 1

Moiola Park Residences - Orange County, Summer

3.3 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	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963
Total	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7812	0.0000	5.7812	3.1778	0.0000	3.1778			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651
Total	5.3428	60.7861	21.8537	0.0570	5.7812	2.6460	8.4272	3.1778	2.4343	5.6121	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651

Moiola Park Residences - Orange County, Summer

3.3 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	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963
Total	0.0650	0.0393	0.5467	1.9000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		189.3950	189.3950	4.0600e-003		189.4963

3.4 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.7864	0.0000	8.7864	3.6136	0.0000	3.6136			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032		6,925.967 4	6,925.967 4	2.2400		6,981.967 3
Total	4.9185	56.5443	31.2281	0.0715	8.7864	2.2861	11.0725	3.6136	2.1032	5.7169		6,925.967 4	6,925.967 4	2.2400		6,981.967 3

Moiola Park Residences - Orange County, Summer

3.4 Grading - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9003	31.7769	8.7296	0.0943	2.1763	0.0998	2.2761	0.5958	0.0955	0.6913		10,532.72 29	10,532.72 29	1.0920		10,560.02 32
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	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.9724	31.8205	9.3371	0.0964	2.3999	0.1013	2.5011	0.6550	0.0969	0.7519		10,743.16 17	10,743.16 17	1.0965		10,770.57 47

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					2.8117	0.0000	2.8117	1.1564	0.0000	1.1564			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032	0.0000	6,925.967 4	6,925.967 4	2.2400		6,981.967 3
Total	4.9185	56.5443	31.2281	0.0715	2.8117	2.2861	5.0978	1.1564	2.1032	3.2596	0.0000	6,925.967 4	6,925.967 4	2.2400		6,981.967 3

Moiola Park Residences - Orange County, Summer

3.4 Grading - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9003	31.7769	8.7296	0.0943	2.1763	0.0998	2.2761	0.5958	0.0955	0.6913		10,532.72 29	10,532.72 29	1.0920		10,560.02 32
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	0.0722	0.0437	0.6075	2.1100e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		210.4388	210.4388	4.5100e-003		210.5515
Total	0.9724	31.8205	9.3371	0.0964	2.3999	0.1013	2.5011	0.6550	0.0969	0.7519		10,743.16 17	10,743.16 17	1.0965		10,770.57 47

3.5 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3

Moiola Park Residences - Orange County, Summer

3.5 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	0.0214	0.7505	0.2035	1.9700e-003	0.0511	1.5600e-003	0.0527	0.0147	1.4900e-003	0.0162		215.0340	215.0340	0.0169		215.4555
Worker	0.0975	0.0590	0.8201	2.8500e-003	0.3018	1.9500e-003	0.3038	0.0800	1.8000e-003	0.0818		284.0924	284.0924	6.0800e-003		284.2445
Total	0.1188	0.8095	1.0236	4.8200e-003	0.3529	3.5100e-003	0.3564	0.0948	3.2900e-003	0.0980		499.1264	499.1264	0.0229		499.7001

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Moiola Park Residences - Orange County, Summer

3.5 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	0.0214	0.7505	0.2035	1.9700e-003	0.0511	1.5600e-003	0.0527	0.0147	1.4900e-003	0.0162		215.0340	215.0340	0.0169		215.4555
Worker	0.0975	0.0590	0.8201	2.8500e-003	0.3018	1.9500e-003	0.3038	0.0800	1.8000e-003	0.0818		284.0924	284.0924	6.0800e-003		284.2445
Total	0.1188	0.8095	1.0236	4.8200e-003	0.3529	3.5100e-003	0.3564	0.0948	3.2900e-003	0.0980		499.1264	499.1264	0.0229		499.7001

3.5 Building Construction - 2022**Unmitigated Construction On-Site**

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

Moiola Park Residences - Orange County, Summer

3.5 Building Construction - 2022**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	0.0201	0.7100	0.1965	1.9500e-003	0.0511	1.3600e-003	0.0525	0.0147	1.3000e-003	0.0160		212.9221	212.9221	0.0163		213.3304
Worker	0.0921	0.0534	0.7654	2.7400e-003	0.3018	1.9200e-003	0.3037	0.0800	1.7600e-003	0.0818		273.5643	273.5643	5.5300e-003		273.7025
Total	0.1122	0.7635	0.9619	4.6900e-003	0.3529	3.2800e-003	0.3562	0.0948	3.0600e-003	0.0978		486.4864	486.4864	0.0219		487.0329

Mitigated Construction On-Site

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

Moiola Park Residences - Orange County, Summer

3.5 Building Construction - 2022**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	0.0201	0.7100	0.1965	1.9500e-003	0.0511	1.3600e-003	0.0525	0.0147	1.3000e-003	0.0160		212.9221	212.9221	0.0163		213.3304
Worker	0.0921	0.0534	0.7654	2.7400e-003	0.3018	1.9200e-003	0.3037	0.0800	1.7600e-003	0.0818		273.5643	273.5643	5.5300e-003		273.7025
Total	0.1122	0.7635	0.9619	4.6900e-003	0.3529	3.2800e-003	0.3562	0.0948	3.0600e-003	0.0978		486.4864	486.4864	0.0219		487.0329

3.6 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Moiola Park Residences - Orange County, Summer

3.6 Paving - 2022**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	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569
Total	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Moiola Park Residences - Orange County, Summer

3.6 Paving - 2022**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	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569
Total	0.0512	0.0297	0.4252	1.5200e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		151.9802	151.9802	3.0700e-003		152.0569

3.7 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.6733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	41.8778	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Moiola Park Residences - Orange County, Summer

3.7 Architectural Coating - 2022**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	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856

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	41.6733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	41.8778	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Moiola Park Residences - Orange County, Summer

3.7 Architectural Coating - 2022**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	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856
Total	0.0171	9.8900e-003	0.1417	5.1000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		50.6601	50.6601	1.0200e-003		50.6856

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Moiola Park Residences - Orange 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	0.7745	0.9322	12.9005	0.0493	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,919.497 1	4,919.497 1	0.0924		4,921.806 0
Unmitigated	0.7745	0.9322	12.9005	0.0493	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,919.497 1	4,919.497 1	0.0924		4,921.806 0

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	698.56	727.42	634.92	2,370,107	2,370,107
Total	698.56	727.42	634.92	2,370,107	2,370,107

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.607000	0.047000	0.226000	0.120000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N
Moiola Park Residential Project
Emission Summary Worksheets

Moiola Park Residences - Orange County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
NaturalGas Unmitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

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					
Single Family Housing	5231.68	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

Moiola Park Residences - Orange 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					
Single Family Housing	5.23168	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Unmitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

Moiola Park Residences - Orange County, Summer

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	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

Moiola Park Residences - Orange County, Summer

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	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

Moiola Park Residences - Orange County, Summer

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

Moiola Park Residences - Orange County, Winter

Moiola Park Residences

Orange County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	74.00	Dwelling Unit	13.00	133,200.00	212

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Moiola Park Residences - Orange County, Winter

Project Characteristics - Project Description

Land Use - Project Description

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Trips and VMT - Total debris truck trips: 8441 tons/20 tons/truckx2trips per truck

Demolition - Tons of debris from demolition of the existing school

Grading - Project Description

Vehicle Trips - Weekday trip rate derived from Traffic Study

Sat and Sun trip rates derived from CalEEMod default rates

Woodstoves - Assumes no woodstoves or fireplaces

Construction Off-road Equipment Mitigation - 3x Daily Watering as per

[http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt)

Fleet Mix - Project vehicles assumed to consist of LDA, LDT, and MDV vehicle classes as representative of a residential fleet mix

Percentages reflect redistribution of the fleet mix into the above vehicle classes

Construction Phase -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	68
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	68
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	62.90	0.00

Moiola Park Residences - Orange County, Winter

tblFireplaces	NumberNoFireplace	7.40	0.00
tblFireplaces	NumberWood	3.70	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.61
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialImported	0.00	30,000.00
tblLandUse	LotAcreage	24.03	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	835.00	844.00
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	8.62	8.58
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	3.70	0.00

Moiola Park Residences - Orange County, Winter

tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

Moiola Park Residences - Orange County, Winter

2.1 Overall Construction (Maximum Daily Emission)**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.9226	88.7444	40.9529	0.1664	18.2675	2.6473	20.9148	9.9840	2.4355	12.4196	0.0000	17,498.26 29	17,498.26 29	3.3607	0.0000	17,582.28 08
2022	41.8972	16.3822	17.2839	0.0314	0.3529	0.8123	1.1652	0.0948	0.7643	0.8590	0.0000	3,020.929 3	3,020.929 3	0.7169	0.0000	3,036.786 0
Maximum	41.8972	88.7444	40.9529	0.1664	18.2675	2.6473	20.9148	9.9840	2.4355	12.4196	0.0000	17,498.26 29	17,498.26 29	3.3607	0.0000	17,582.28 08

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	5.9226	88.7444	40.9529	0.1664	5.9824	2.6473	8.6297	3.2312	2.4355	5.6667	0.0000	17,498.26 29	17,498.26 29	3.3607	0.0000	17,582.28 08
2022	41.8972	16.3822	17.2839	0.0314	0.3529	0.8123	1.1652	0.0948	0.7643	0.8590	0.0000	3,020.929 3	3,020.929 3	0.7169	0.0000	3,036.786 0
Maximum	41.8972	88.7444	40.9529	0.1664	5.9824	2.6473	8.6297	3.2312	2.4355	5.6667	0.0000	17,498.26 29	17,498.26 29	3.3607	0.0000	17,582.28 08

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	65.98	0.00	55.64	67.00	0.00	50.86	0.00	0.00	0.00	0.00	0.00	0.00

Moiola Park Residences - Orange 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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.7473	1.0225	12.0169	0.0467	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,658.453 1	4,658.453 1	0.0878		4,660.647 3
Total	3.8540	1.5751	18.3337	0.0501	5.1880	0.1049	5.2929	1.3753	0.1024	1.4777	0.0000	5,284.937 8	5,284.937 8	0.1102	0.0113	5,291.054 6

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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.7473	1.0225	12.0169	0.0467	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,658.453 1	4,658.453 1	0.0878		4,660.647 3
Total	3.8540	1.5751	18.3337	0.0501	5.1880	0.1049	5.2929	1.3753	0.1024	1.4777	0.0000	5,284.937 8	5,284.937 8	0.1102	0.0113	5,291.054 6

Moiola Park Residences - Orange 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/26/2021	5	30	
4	Building Construction	Building Construction	3/27/2021	5/20/2022	5	300	
5	Paving	Paving	5/21/2022	6/17/2022	5	20	
6	Architectural Coating	Architectural Coating	6/18/2022	7/15/2022	5	20	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 75****Acres of Paving: 0****Residential Indoor: 269,730; Residential Outdoor: 89,910; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Moiola Park Residences - Orange County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Moiola Park Residences - Orange 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
Demolition	6	15.00	0.00	844.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 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					9.0315	0.0000	9.0315	1.3674	0.0000	1.3674			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411		3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	3.1651	31.4407	21.5650	0.0388	9.0315	1.5513	10.5828	1.3674	1.4411	2.8085		3,747.944 9	3,747.944 9	1.0549		3,774.317 4

Moiola Park Residences - Orange County, Winter

3.2 Demolition - 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	0.3114	10.8545	3.0939	0.0314	0.7347	0.0343	0.7690	0.2011	0.0328	0.2340		3,501.968 4	3,501.968 4	0.3769		3,511.391 2
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	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548
Total	0.3727	10.8905	3.5143	0.0329	0.9024	0.0354	0.9378	0.2456	0.0338	0.2794		3,651.343 2	3,651.343 2	0.3801		3,660.846 0

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.8901	0.0000	2.8901	0.4376	0.0000	0.4376			0.0000			0.0000
Off-Road	3.1651	31.4407	21.5650	0.0388		1.5513	1.5513		1.4411	1.4411	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4
Total	3.1651	31.4407	21.5650	0.0388	2.8901	1.5513	4.4414	0.4376	1.4411	1.8787	0.0000	3,747.944 9	3,747.944 9	1.0549		3,774.317 4

Moiola Park Residences - Orange County, Winter

3.2 Demolition - 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	0.3114	10.8545	3.0939	0.0314	0.7347	0.0343	0.7690	0.2011	0.0328	0.2340		3,501.968 4	3,501.968 4	0.3769		3,511.391 2
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	0.0613	0.0360	0.4204	1.5000e-003	0.1677	1.0900e-003	0.1688	0.0445	1.0000e-003	0.0455		149.3748	149.3748	3.2000e-003		149.4548
Total	0.3727	10.8905	3.5143	0.0329	0.9024	0.0354	0.9378	0.2456	0.0338	0.2794		3,651.343 2	3,651.343 2	0.3801		3,660.846 0

3.3 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					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343		5,523.504 7	5,523.504 7	1.7864		5,568.165 1
Total	5.3428	60.7861	21.8537	0.0570	18.0663	2.6460	20.7123	9.9307	2.4343	12.3650		5,523.504 7	5,523.504 7	1.7864		5,568.165 1

Moiola Park Residences - Orange County, Winter

3.3 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	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458
Total	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					5.7812	0.0000	5.7812	3.1778	0.0000	3.1778			0.0000			0.0000
Off-Road	5.3428	60.7861	21.8537	0.0570		2.6460	2.6460		2.4343	2.4343	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651
Total	5.3428	60.7861	21.8537	0.0570	5.7812	2.6460	8.4272	3.1778	2.4343	5.6121	0.0000	5,523.5047	5,523.5047	1.7864		5,568.1651

Moiola Park Residences - Orange County, Winter

3.3 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	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458
Total	0.0736	0.0432	0.5045	1.8000e-003	0.2012	1.3000e-003	0.2025	0.0534	1.2000e-003	0.0546		179.2498	179.2498	3.8400e-003		179.3458

3.4 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.7864	0.0000	8.7864	3.6136	0.0000	3.6136			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032		6,925.967 4	6,925.967 4	2.2400		6,981.967 3
Total	4.9185	56.5443	31.2281	0.0715	8.7864	2.2861	11.0725	3.6136	2.1032	5.7169		6,925.967 4	6,925.967 4	2.2400		6,981.967 3

Moiola Park Residences - Orange County, Winter

3.4 Grading - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9224	32.1521	9.1643	0.0929	2.1763	0.1017	2.2780	0.5958	0.0973	0.6930		10,373.1291	10,373.1291	1.1165		10,401.0404
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	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	1.0041	32.2001	9.7248	0.0949	2.3999	0.1031	2.5030	0.6550	0.0986	0.7536		10,572.2956	10,572.2956	1.1207		10,600.3134

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					2.8117	0.0000	2.8117	1.1564	0.0000	1.1564			0.0000			0.0000
Off-Road	4.9185	56.5443	31.2281	0.0715		2.2861	2.2861		2.1032	2.1032	0.0000	6,925.9674	6,925.9674	2.2400		6,981.9673
Total	4.9185	56.5443	31.2281	0.0715	2.8117	2.2861	5.0978	1.1564	2.1032	3.2596	0.0000	6,925.9674	6,925.9674	2.2400		6,981.9673

Moiola Park Residences - Orange County, Winter

3.4 Grading - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.9224	32.1521	9.1643	0.0929	2.1763	0.1017	2.2780	0.5958	0.0973	0.6930		10,373.1291	10,373.1291	1.1165		10,401.0404
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	0.0817	0.0480	0.5605	2.0000e-003	0.2236	1.4500e-003	0.2250	0.0593	1.3300e-003	0.0606		199.1664	199.1664	4.2600e-003		199.2731
Total	1.0041	32.2001	9.7248	0.0949	2.3999	0.1031	2.5030	0.6550	0.0986	0.7536		10,572.2956	10,572.2956	1.1207		10,600.3134

3.5 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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643

Moiola Park Residences - Orange County, Winter

3.5 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	0.0224	0.7488	0.2233	1.9300e-003	0.0511	1.6200e-003	0.0527	0.0147	1.5500e-003	0.0163		209.7512	209.7512	0.0177		210.1934
Worker	0.1103	0.0648	0.7567	2.7000e-003	0.3018	1.9500e-003	0.3038	0.0800	1.8000e-003	0.0818		268.8747	268.8747	5.7600e-003		269.0186
Total	0.1327	0.8135	0.9800	4.6300e-003	0.3529	3.5700e-003	0.3565	0.0948	3.3500e-003	0.0981		478.6259	478.6259	0.0235		479.2120

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	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643

Moiola Park Residences - Orange County, Winter

3.5 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	0.0224	0.7488	0.2233	1.9300e-003	0.0511	1.6200e-003	0.0527	0.0147	1.5500e-003	0.0163		209.7512	209.7512	0.0177		210.1934
Worker	0.1103	0.0648	0.7567	2.7000e-003	0.3018	1.9500e-003	0.3038	0.0800	1.8000e-003	0.0818		268.8747	268.8747	5.7600e-003		269.0186
Total	0.1327	0.8135	0.9800	4.6300e-003	0.3529	3.5700e-003	0.3565	0.0948	3.3500e-003	0.0981		478.6259	478.6259	0.0235		479.2120

3.5 Building Construction - 2022**Unmitigated Construction On-Site**

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

Moiola Park Residences - Orange County, Winter

3.5 Building Construction - 2022**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	0.0211	0.7079	0.2153	1.9000e-003	0.0511	1.4100e-003	0.0525	0.0147	1.3500e-003	0.0161		207.6714	207.6714	0.0171		208.0989
Worker	0.1045	0.0587	0.7052	2.6000e-003	0.3018	1.9200e-003	0.3037	0.0800	1.7600e-003	0.0818		258.9243	258.9243	5.2200e-003		259.0549
Total	0.1256	0.7666	0.9205	4.5000e-003	0.3529	3.3300e-003	0.3562	0.0948	3.1100e-003	0.0979		466.5957	466.5957	0.0223		467.1538

Mitigated Construction On-Site

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

Moiola Park Residences - Orange County, Winter

3.5 Building Construction - 2022**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	0.0211	0.7079	0.2153	1.9000e-003	0.0511	1.4100e-003	0.0525	0.0147	1.3500e-003	0.0161		207.6714	207.6714	0.0171		208.0989
Worker	0.1045	0.0587	0.7052	2.6000e-003	0.3018	1.9200e-003	0.3037	0.0800	1.7600e-003	0.0818		258.9243	258.9243	5.2200e-003		259.0549
Total	0.1256	0.7666	0.9205	4.5000e-003	0.3529	3.3300e-003	0.3562	0.0948	3.1100e-003	0.0979		466.5957	466.5957	0.0223		467.1538

3.6 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104

Moiola Park Residences - Orange County, Winter

3.6 Paving - 2022**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	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194
Total	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104

Moiola Park Residences - Orange County, Winter

3.6 Paving - 2022**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	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194
Total	0.0581	0.0326	0.3918	1.4400e-003	0.1677	1.0600e-003	0.1687	0.0445	9.8000e-004	0.0455		143.8468	143.8468	2.9000e-003		143.9194

3.7 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	41.6733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	41.8778	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062

Moiola Park Residences - Orange County, Winter

3.7 Architectural Coating - 2022**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	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731

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	41.6733					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	41.8778	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062

Moiola Park Residences - Orange County, Winter

3.7 Architectural Coating - 2022**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	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731
Total	0.0194	0.0109	0.1306	4.8000e-004	0.0559	3.5000e-004	0.0562	0.0148	3.3000e-004	0.0152		47.9489	47.9489	9.7000e-004		47.9731

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Moiola Park Residences - Orange 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
Category	lb/day										lb/day					
Mitigated	0.7473	1.0225	12.0169	0.0467	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,658.453 1	4,658.453 1	0.0878		4,660.647 3
Unmitigated	0.7473	1.0225	12.0169	0.0467	5.1880	0.0322	5.2202	1.3753	0.0296	1.4049		4,658.453 1	4,658.453 1	0.0878		4,660.647 3

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	698.56	727.42	634.92	2,370,107	2,370,107
Total	698.56	727.42	634.92	2,370,107	2,370,107

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.607000	0.047000	0.226000	0.120000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N
Moiola Park Residential Project
Emission Summary Worksheets

Moiola Park Residences - Orange County, Winter

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
NaturalGas Unmitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

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					
Single Family Housing	5231.68	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

Moiola Park Residences - Orange County, Winter

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					
Single Family Housing	5.23168	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Unmitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

Moiola Park Residences - Orange County, Winter

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	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

Moiola Park Residences - Orange County, Winter

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	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

Moiola Park Residences - Orange County, Winter

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

Moiola Park Residences - Orange County, Annual

Moiola Park Residences

Orange County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	74.00	Dwelling Unit	13.00	133,200.00	212

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Moiola Park Residences - Orange County, Annual

Project Characteristics - Project Description

Land Use - Project Description

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Off-road Equipment -

Off-road Equipment - Larger crawler tractors assumed

Trips and VMT - Total debris truck trips: 8441 tons/20 tons/truckx2trips per truck

Demolition - Tons of debris from demolition of the existing school

Grading - Project Description

Vehicle Trips - Weekday trip rate derived from Traffic Study

Sat and Sun trip rates derived from CalEEMod default rates

Woodstoves - Assumes no woodstoves or fireplaces

Construction Off-road Equipment Mitigation - 3x Daily Watering as per

[http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt)

Fleet Mix - Project vehicles assumed to consist of LDA, LDT, and MDV vehicle classes as representative of a residential fleet mix

Percentages reflect redistribution of the fleet mix into the above vehicle classes

Construction Phase -

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	68
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	68
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	62.90	0.00

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tblFireplaces	NumberNoFireplace	7.40	0.00
tblFireplaces	NumberWood	3.70	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.61
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblGrading	AcresOfGrading	105.00	75.00
tblGrading	AcresOfGrading	20.00	0.00
tblGrading	MaterialImported	0.00	30,000.00
tblLandUse	LotAcreage	24.03	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblTripsAndVMT	HaulingTripNumber	835.00	844.00
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	8.62	8.58
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	3.70	0.00

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tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

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2.1 Overall Construction**Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3530	3.8960	2.7292	6.6800e-003	0.3924	0.1611	0.5536	0.1392	0.1504	0.2896	0.0000	608.4300	608.4300	0.1246	0.0000	611.5455
2022	0.5215	0.9456	1.0339	1.8500e-003	0.0195	0.0471	0.0667	5.2500e-003	0.0443	0.0495	0.0000	161.6915	161.6915	0.0354	0.0000	162.5773
Maximum	0.5215	3.8960	2.7292	6.6800e-003	0.3924	0.1611	0.5536	0.1392	0.1504	0.2896	0.0000	608.4300	608.4300	0.1246	0.0000	611.5455

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.3530	3.8960	2.7292	6.6800e-003	0.1800	0.1611	0.3411	0.0593	0.1504	0.2097	0.0000	608.4296	608.4296	0.1246	0.0000	611.5450
2022	0.5215	0.9456	1.0339	1.8500e-003	0.0195	0.0471	0.0667	5.2500e-003	0.0443	0.0495	0.0000	161.6913	161.6913	0.0354	0.0000	162.5772
Maximum	0.5215	3.8960	2.7292	6.6800e-003	0.1800	0.1611	0.3411	0.0593	0.1504	0.2097	0.0000	608.4296	608.4296	0.1246	0.0000	611.5450

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	51.58	0.00	34.26	55.32	0.00	23.57	0.00	0.00	0.00	0.00	0.00	0.00

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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	2.2351	2.2351
2	4-4-2021	7-3-2021	0.6585	0.6585
3	7-4-2021	10-3-2021	0.6657	0.6657
4	10-4-2021	1-3-2022	0.6641	0.6641
5	1-4-2022	4-3-2022	0.5854	0.5854
6	4-4-2022	7-3-2022	0.6760	0.6760
7	7-4-2022	9-30-2022	0.1856	0.1856
		Highest	2.2351	2.2351

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	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766
Energy	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	290.9626	290.9626	9.7600e-003	3.4800e-003	292.2445
Mobile	0.1255	0.1816	2.1306	8.2100e-003	0.8842	5.5800e-003	0.8898	0.2347	5.1300e-003	0.2398	0.0000	743.5717	743.5717	0.0140	0.0000	743.9217
Waste						0.0000	0.0000		0.0000	0.0000	17.6440	0.0000	17.6440	1.0427	0.0000	43.7122
Water						0.0000	0.0000		0.0000	0.0000	1.5296	30.7626	32.2922	0.1584	3.9700e-003	37.4354
Total	0.6818	0.2784	2.9320	8.8100e-003	0.8842	0.0169	0.9011	0.2347	0.0165	0.2512	19.1736	1,066.5434	1,085.7170	1.2261	7.4500e-003	1,118.5904

Moiola Park Residences - Orange 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	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766
Energy	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	290.9626	290.9626	9.7600e-003	3.4800e-003	292.2445
Mobile	0.1255	0.1816	2.1306	8.2100e-003	0.8842	5.5800e-003	0.8898	0.2347	5.1300e-003	0.2398	0.0000	743.5717	743.5717	0.0140	0.0000	743.9217
Waste						0.0000	0.0000		0.0000	0.0000	17.6440	0.0000	17.6440	1.0427	0.0000	43.7122
Water						0.0000	0.0000		0.0000	0.0000	1.5296	30.7626	32.2922	0.1584	3.9700e-003	37.4354
Total	0.6818	0.2784	2.9320	8.8100e-003	0.8842	0.0169	0.9011	0.2347	0.0165	0.2512	19.1736	1,066.5434	1,085.7170	1.2261	7.4500e-003	1,118.5904

	ROG	NOx	CO	SO2	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/4/2021	1/29/2021	5	20	
2	Site Preparation	Site Preparation	1/30/2021	2/12/2021	5	10	
3	Grading	Grading	2/13/2021	3/26/2021	5	30	
4	Building Construction	Building Construction	3/27/2021	5/20/2022	5	300	
5	Paving	Paving	5/21/2022	6/17/2022	5	20	
6	Architectural Coating	Architectural Coating	6/18/2022	7/15/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 75

Acres of Paving: 0

Residential Indoor: 269,730; Residential Outdoor: 89,910; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0
(Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	4	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	2	8.00	212	0.43
Grading	Excavators	2	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Scrapers	2	8.00	367	0.48
Grading	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

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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
Demolition	6	15.00	0.00	844.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	8	20.00	0.00	3,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	27.00	8.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	5.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0903	0.0000	0.0903	0.0137	0.0000	0.0137	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400
Total	0.0317	0.3144	0.2157	3.9000e-004	0.0903	0.0155	0.1058	0.0137	0.0144	0.0281	0.0000	34.0008	34.0008	9.5700e-003	0.0000	34.2400

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3.2 Demolition - 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	3.0700e-003	0.1106	0.0301	3.2000e-004	7.2300e-003	3.4000e-004	7.5700e-003	1.9800e-003	3.2000e-004	2.3100e-003	0.0000	32.0528	32.0528	3.3800e-003	0.0000	32.1372
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	5.5000e-004	3.7000e-004	4.3100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3758	1.3758	3.0000e-005	0.0000	1.3765
Total	3.6200e-003	0.1110	0.0344	3.4000e-004	8.8800e-003	3.5000e-004	9.2300e-003	2.4200e-003	3.3000e-004	2.7600e-003	0.0000	33.4286	33.4286	3.4100e-003	0.0000	33.5138

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					0.0289	0.0000	0.0289	4.3800e-003	0.0000	4.3800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0317	0.3144	0.2157	3.9000e-004		0.0155	0.0155		0.0144	0.0144	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400
Total	0.0317	0.3144	0.2157	3.9000e-004	0.0289	0.0155	0.0444	4.3800e-003	0.0144	0.0188	0.0000	34.0007	34.0007	9.5700e-003	0.0000	34.2400

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3.2 Demolition - 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	3.0700e-003	0.1106	0.0301	3.2000e-004	7.2300e-003	3.4000e-004	7.5700e-003	1.9800e-003	3.2000e-004	2.3100e-003	0.0000	32.0528	32.0528	3.3800e-003	0.0000	32.1372
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	5.5000e-004	3.7000e-004	4.3100e-003	2.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3758	1.3758	3.0000e-005	0.0000	1.3765
Total	3.6200e-003	0.1110	0.0344	3.4000e-004	8.8800e-003	3.5000e-004	9.2300e-003	2.4200e-003	3.3000e-004	2.7600e-003	0.0000	33.4286	33.4286	3.4100e-003	0.0000	33.5138

3.3 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					0.0903	0.0000	0.0903	0.0497	0.0000	0.0497	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2568
Total	0.0267	0.3039	0.1093	2.8000e-004	0.0903	0.0132	0.1036	0.0497	0.0122	0.0618	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2568

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3.3 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	3.3000e-004	2.2000e-004	2.5900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8255	0.8255	2.0000e-005	0.0000	0.8259
Total	3.3000e-004	2.2000e-004	2.5900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8255	0.8255	2.0000e-005	0.0000	0.8259

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					0.0289	0.0000	0.0289	0.0159	0.0000	0.0159	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0267	0.3039	0.1093	2.8000e-004		0.0132	0.0132		0.0122	0.0122	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2567
Total	0.0267	0.3039	0.1093	2.8000e-004	0.0289	0.0132	0.0421	0.0159	0.0122	0.0281	0.0000	25.0542	25.0542	8.1000e-003	0.0000	25.2567

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3.3 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	3.3000e-004	2.2000e-004	2.5900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8255	0.8255	2.0000e-005	0.0000	0.8259
Total	3.3000e-004	2.2000e-004	2.5900e-003	1.0000e-005	9.9000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.8255	0.8255	2.0000e-005	0.0000	0.8259

3.4 Grading - 2021**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1318	0.0000	0.1318	0.0542	0.0000	0.0542	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0738	0.8482	0.4684	1.0700e-003		0.0343	0.0343		0.0316	0.0316	0.0000	94.2470	94.2470	0.0305	0.0000	95.0090
Total	0.0738	0.8482	0.4684	1.0700e-003	0.1318	0.0343	0.1661	0.0542	0.0316	0.0858	0.0000	94.2470	94.2470	0.0305	0.0000	95.0090

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3.4 Grading - 2021**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0137	0.4915	0.1338	1.4100e-003	0.0321	1.5100e-003	0.0336	8.8100e-003	1.4400e-003	0.0103	0.0000	142.4148	142.4148	0.0150	0.0000	142.7899
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	1.1000e-003	7.4000e-004	8.6200e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7516	2.7516	6.0000e-005	0.0000	2.7530
Total	0.0148	0.4923	0.1424	1.4400e-003	0.0354	1.5300e-003	0.0370	9.6800e-003	1.4600e-003	0.0111	0.0000	145.1663	145.1663	0.0151	0.0000	145.5429

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					0.0422	0.0000	0.0422	0.0174	0.0000	0.0174	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0738	0.8482	0.4684	1.0700e-003		0.0343	0.0343		0.0316	0.0316	0.0000	94.2469	94.2469	0.0305	0.0000	95.0089
Total	0.0738	0.8482	0.4684	1.0700e-003	0.0422	0.0343	0.0765	0.0174	0.0316	0.0489	0.0000	94.2469	94.2469	0.0305	0.0000	95.0089

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3.4 Grading - 2021**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0137	0.4915	0.1338	1.4100e-003	0.0321	1.5100e-003	0.0336	8.8100e-003	1.4400e-003	0.0103	0.0000	142.4148	142.4148	0.0150	0.0000	142.7899
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	1.1000e-003	7.4000e-004	8.6200e-003	3.0000e-005	3.2900e-003	2.0000e-005	3.3200e-003	8.7000e-004	2.0000e-005	8.9000e-004	0.0000	2.7516	2.7516	6.0000e-005	0.0000	2.7530
Total	0.0148	0.4923	0.1424	1.4400e-003	0.0354	1.5300e-003	0.0370	9.6800e-003	1.4600e-003	0.0111	0.0000	145.1663	145.1663	0.0151	0.0000	145.5429

3.5 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	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6373	231.6373	0.0559	0.0000	233.0344
Total	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6373	231.6373	0.0559	0.0000	233.0344

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3.5 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	2.1800e-003	0.0762	0.0214	2.0000e-004	5.0400e-003	1.6000e-004	5.1900e-003	1.4500e-003	1.5000e-004	1.6000e-003	0.0000	19.3063	19.3063	1.5600e-003	0.0000	19.3454
Worker	9.8900e-003	6.6500e-003	0.0776	2.7000e-004	0.0296	2.0000e-004	0.0298	7.8700e-003	1.8000e-004	8.0500e-003	0.0000	24.7641	24.7641	5.3000e-004	0.0000	24.7774
Total	0.0121	0.0829	0.0989	4.7000e-004	0.0347	3.6000e-004	0.0350	9.3200e-003	3.3000e-004	9.6500e-003	0.0000	44.0704	44.0704	2.0900e-003	0.0000	44.1227

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	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6370	231.6370	0.0559	0.0000	233.0341
Total	0.1901	1.7432	1.6575	2.6900e-003		0.0959	0.0959		0.0901	0.0901	0.0000	231.6370	231.6370	0.0559	0.0000	233.0341

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3.5 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	2.1800e-003	0.0762	0.0214	2.0000e-004	5.0400e-003	1.6000e-004	5.1900e-003	1.4500e-003	1.5000e-004	1.6000e-003	0.0000	19.3063	19.3063	1.5600e-003	0.0000	19.3454
Worker	9.8900e-003	6.6500e-003	0.0776	2.7000e-004	0.0296	2.0000e-004	0.0298	7.8700e-003	1.8000e-004	8.0500e-003	0.0000	24.7641	24.7641	5.3000e-004	0.0000	24.7774
Total	0.0121	0.0829	0.0989	4.7000e-004	0.0347	3.6000e-004	0.0350	9.3200e-003	3.3000e-004	9.6500e-003	0.0000	44.0704	44.0704	2.0900e-003	0.0000	44.1227

3.5 Building Construction - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0853	0.7808	0.8182	1.3500e-003		0.0405	0.0405		0.0381	0.0381	0.0000	115.8626	115.8626	0.0278	0.0000	116.5566
Total	0.0853	0.7808	0.8182	1.3500e-003		0.0405	0.0405		0.0381	0.0381	0.0000	115.8626	115.8626	0.0278	0.0000	116.5566

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3.5 Building Construction - 2022**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	1.0300e-003	0.0360	0.0103	1.0000e-004	2.5200e-003	7.0000e-005	2.5900e-003	7.3000e-004	7.0000e-005	7.9000e-004	0.0000	9.5580	9.5580	7.6000e-004	0.0000	9.5769
Worker	4.6800e-003	3.0100e-003	0.0362	1.3000e-004	0.0148	1.0000e-004	0.0149	3.9400e-003	9.0000e-005	4.0200e-003	0.0000	11.9237	11.9237	2.4000e-004	0.0000	11.9297
Total	5.7100e-003	0.0390	0.0465	2.3000e-004	0.0173	1.7000e-004	0.0175	4.6700e-003	1.6000e-004	4.8100e-003	0.0000	21.4816	21.4816	1.0000e-003	0.0000	21.5065

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	0.0853	0.7808	0.8182	1.3500e-003		0.0405	0.0405		0.0381	0.0381	0.0000	115.8625	115.8625	0.0278	0.0000	116.5564
Total	0.0853	0.7808	0.8182	1.3500e-003		0.0405	0.0405		0.0381	0.0381	0.0000	115.8625	115.8625	0.0278	0.0000	116.5564

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3.5 Building Construction - 2022**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	1.0300e-003	0.0360	0.0103	1.0000e-004	2.5200e-003	7.0000e-005	2.5900e-003	7.3000e-004	7.0000e-005	7.9000e-004	0.0000	9.5580	9.5580	7.6000e-004	0.0000	9.5769
Worker	4.6800e-003	3.0100e-003	0.0362	1.3000e-004	0.0148	1.0000e-004	0.0149	3.9400e-003	9.0000e-005	4.0200e-003	0.0000	11.9237	11.9237	2.4000e-004	0.0000	11.9297
Total	5.7100e-003	0.0390	0.0465	2.3000e-004	0.0173	1.7000e-004	0.0175	4.6700e-003	1.6000e-004	4.8100e-003	0.0000	21.4816	21.4816	1.0000e-003	0.0000	21.5065

3.6 Paving - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0276	20.0276	6.4800e-003	0.0000	20.1895

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3.6 Paving - 2022**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	5.2000e-004	3.3000e-004	4.0200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3249	1.3249	3.0000e-005	0.0000	1.3255
Total	5.2000e-004	3.3000e-004	4.0200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3249	1.3249	3.0000e-005	0.0000	1.3255

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0110	0.1113	0.1458	2.3000e-004		5.6800e-003	5.6800e-003		5.2200e-003	5.2200e-003	0.0000	20.0275	20.0275	6.4800e-003	0.0000	20.1895

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3.6 Paving - 2022**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	5.2000e-004	3.3000e-004	4.0200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3249	1.3249	3.0000e-005	0.0000	1.3255
Total	5.2000e-004	3.3000e-004	4.0200e-003	1.0000e-005	1.6500e-003	1.0000e-005	1.6600e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.3249	1.3249	3.0000e-005	0.0000	1.3255

3.7 Architectural Coating - 2022**Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.4188	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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3.7 Architectural Coating - 2022**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	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418
Total	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418

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	0.4167					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.0500e-003	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574
Total	0.4188	0.0141	0.0181	3.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	2.5533	2.5533	1.7000e-004	0.0000	2.5574

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3.7 Architectural Coating - 2022**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	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418
Total	1.7000e-004	1.1000e-004	1.3400e-003	0.0000	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4416	0.4416	1.0000e-005	0.0000	0.4418

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	0.1255	0.1816	2.1306	8.2100e-003	0.8842	5.5800e-003	0.8898	0.2347	5.1300e-003	0.2398	0.0000	743.5717	743.5717	0.0140	0.0000	743.9217
Unmitigated	0.1255	0.1816	2.1306	8.2100e-003	0.8842	5.5800e-003	0.8898	0.2347	5.1300e-003	0.2398	0.0000	743.5717	743.5717	0.0140	0.0000	743.9217

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	698.56	727.42	634.92	2,370,107	2,370,107
Total	698.56	727.42	634.92	2,370,107	2,370,107

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
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.607000	0.047000	0.226000	0.120000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N
Moiola Park Residential Project
Emission Summary Worksheets

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5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.0610	189.0610	7.8100e-003	1.6100e-003	189.7374
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	189.0610	189.0610	7.8100e-003	1.6100e-003	189.7374
NaturalGas Mitigated	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071
NaturalGas Unmitigated	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071

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					
Single Family Housing	1.90956e+006	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071
Total		0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071

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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					
Single Family Housing	1.90956e+006	0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071
Total		0.0103	0.0880	0.0374	5.6000e-004		7.1100e-003	7.1100e-003		7.1100e-003	7.1100e-003	0.0000	101.9016	101.9016	1.9500e-003	1.8700e-003	102.5071

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	593372	189.0610	7.8100e-003	1.6100e-003	189.7374
Total		189.0610	7.8100e-003	1.6100e-003	189.7374

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

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	593372	189.0610	7.8100e-003	1.6100e-003	189.7374
Total		189.0610	7.8100e-003	1.6100e-003	189.7374

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766
Unmitigated	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766

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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	0.0417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4813					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	0.0231	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766
Total	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766

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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	0.0417					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.4813					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	0.0231	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766
Total	0.5461	8.8100e-003	0.7640	4.0000e-005		4.2200e-003	4.2200e-003		4.2200e-003	4.2200e-003	0.0000	1.2466	1.2466	1.2000e-003	0.0000	1.2766

7.0 Water Detail**7.1 Mitigation Measures Water**

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	32.2922	0.1584	3.9700e-003	37.4354
Unmitigated	32.2922	0.1584	3.9700e-003	37.4354

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.8214 / 3.03958	32.2922	0.1584	3.9700e-003	37.4354
Total		32.2922	0.1584	3.9700e-003	37.4354

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	4.8214 / 3.03958	32.2922	0.1584	3.9700e-003	37.4354
Total		32.2922	0.1584	3.9700e-003	37.4354

8.0 Waste Detail**8.1 Mitigation Measures Waste****Category/Year**

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	17.6440	1.0427	0.0000	43.7122
Unmitigated	17.6440	1.0427	0.0000	43.7122

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8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	86.92	17.6440	1.0427	0.0000	43.7122
Total		17.6440	1.0427	0.0000	43.7122

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	86.92	17.6440	1.0427	0.0000	43.7122
Total		17.6440	1.0427	0.0000	43.7122

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

Moiola Park Residences - LST Operations - Orange County, Summer

Moiola Park Residences - LST Operations

Orange County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	74.00	Dwelling Unit	13.00	133,200.00	212

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	30
Climate Zone	8			Operational Year	2022
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	CH4 Intensity (lb/MWhr)	0.029	N2O Intensity (lb/MWhr)	0.006

1.3 User Entered Comments & Non-Default Data

Moiola Park Residences - LST Operations - Orange County, Summer

Project Characteristics - Project Description

Land Use - Project Description

Construction Phase - Operations Only

Off-road Equipment -

Off-road Equipment - Operations Only

Trips and VMT - Total debris truck trips: 8441 tons/20 tons/truckx2trips per truck

Demolition - Tons of debris from demolition of the existing school

Grading - Project Description

Vehicle Trips - Weekday trip rate derived from Traffic Study

Sat and Sun trip rates derived from CalEEMod default rates

Onsite Trip Distance assumed to be 0.1 mile

Woodstoves - Assumes no woodstoves or fireplaces

Construction Off-road Equipment Mitigation - 3x Daily Watering as per

[http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-\(pm\)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt](http://www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/particulate-matter-(pm)-2.5-significance-thresholds-and-calculation-methodology/pm2-5-working-group-meeting-2-overhead-presentation.ppt)

Fleet Mix - Project vehicles assumed to consist of LDA, LDT, and MDV vehicle classes as representative of a residential fleet mix

Percentages reflect redistribution of the fleet mix into the above vehicle classes

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	68
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	68
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	10.00	0.00
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceHourDay	3.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	62.90	0.00
tblFireplaces	NumberNoFireplace	7.40	0.00

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tblFireplaces	NumberWood	3.70	0.00
tblFleetMix	HHD	0.02	0.00
tblFleetMix	LDA	0.56	0.61
tblFleetMix	LDT1	0.04	0.05
tblFleetMix	LDT2	0.21	0.23
tblFleetMix	LHD1	0.02	0.00
tblFleetMix	LHD2	5.7950e-003	0.00
tblFleetMix	MCY	4.9260e-003	0.00
tblFleetMix	MDV	0.11	0.12
tblFleetMix	MH	9.3400e-004	0.00
tblFleetMix	MHD	0.03	0.00
tblFleetMix	OBUS	1.7470e-003	0.00
tblFleetMix	SBUS	5.9400e-004	0.00
tblFleetMix	UBUS	1.5420e-003	0.00
tblLandUse	LotAcreage	24.03	13.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblVehicleTrips	HO_TL	8.70	0.10
tblVehicleTrips	HS_TL	5.90	0.10
tblVehicleTrips	HW_TL	14.70	0.10
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	8.62	8.58
tblVehicleTrips	WD_TR	9.52	9.44
tblWoodstoves	NumberCatalytic	3.70	0.00
tblWoodstoves	NumberNoncatalytic	3.70	0.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

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2.0 Emissions Summary**2.1 Overall Construction (Maximum Daily Emission)****Unmitigated Construction**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Moiola Park Residences - LST Operations - Orange 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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.5678	0.1459	1.9144	1.5900e-003	0.0507	3.9700e-003	0.0547	0.0134	3.6500e-003	0.0171		155.8331	155.8331	9.8400e-003		156.0791
Total	3.6746	0.6986	8.2313	4.9900e-003	0.0507	0.0767	0.1274	0.0134	0.0764	0.0898	0.0000	782.3178	782.3178	0.0323	0.0113	786.4865

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	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Energy	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Mobile	0.5678	0.1459	1.9144	1.5900e-003	0.0507	3.9700e-003	0.0547	0.0134	3.6500e-003	0.0171		155.8331	155.8331	9.8400e-003		156.0791
Total	3.6746	0.6986	8.2313	4.9900e-003	0.0507	0.0767	0.1274	0.0134	0.0764	0.0898	0.0000	782.3178	782.3178	0.0323	0.0113	786.4865

Moiola Park Residences - LST Operations - Orange 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
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail**Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/2/2021	1/2/2021	5	0	

Acres of Grading (Site Preparation Phase): 0**Acres of Grading (Grading Phase): 0****Acres of Paving: 0****Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)****OffRoad Equipment**

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Crawler Tractors	0	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

Moiola Park Residences - LST Operations - Orange County, Summer

3.1 Mitigation Measures Construction

Water Exposed Area

Water Unpaved Roads

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	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Moiola Park Residences - LST Operations - Orange 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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Moiola Park Residences - LST Operations - Orange 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	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Moiola Park Residences - LST Operations - Orange 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	0.5678	0.1459	1.9144	1.5900e-003	0.0507	3.9700e-003	0.0547	0.0134	3.6500e-003	0.0171		155.8331	155.8331	9.8400e-003		156.0791
Unmitigated	0.5678	0.1459	1.9144	1.5900e-003	0.0507	3.9700e-003	0.0547	0.0134	3.6500e-003	0.0171		155.8331	155.8331	9.8400e-003		156.0791

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Single Family Housing	698.56	727.42	634.92	23,164	23,164
Total	698.56	727.42	634.92	23,164	23,164

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
Single Family Housing	0.10	0.10	0.10	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Single Family Housing	0.607000	0.047000	0.226000	0.120000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N
Moiola Park Residential Project
Emission Summary Worksheets

Moiola Park Residences - LST Operations - Orange County, Summer

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
NaturalGas Unmitigated	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

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					
Single Family Housing	5231.68	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

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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					
Single Family Housing	5.23168	0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494
Total		0.0564	0.4821	0.2052	3.0800e-003		0.0390	0.0390		0.0390	0.0390		615.4918	615.4918	0.0118	0.0113	619.1494

6.0 Area Detail**6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580
Unmitigated	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

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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	lb/day										lb/day					
Architectural Coating	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

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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	0.2284					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	2.6374					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	0.1846	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338		10.9929	10.9929	0.0106		11.2580
Total	3.0503	0.0705	6.1117	3.2000e-004		0.0338	0.0338		0.0338	0.0338	0.0000	10.9929	10.9929	0.0106	0.0000	11.2580

7.0 Water Detail**7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

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

Moiola Park Residences - LST Operations - Orange County, Summer

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

Moiola Park Residential Project

Estimates of Demolition Debris

Building Demolition

Building	Height(ft)	Area (ft2)	Volume (ft3)	Demo Building Volume (cy)	
All	20	40000	800000	9778	Note 1
Total		40000	800000	9778	Note 2
Weight of the Building Demolition Debris (ton/cy):					0.5 Note 3
Total Weight of Building Debris					4889 tons

Note 1: Total square footage of existing school buildings contained in the project description

Note 2: FEMA Debris Estimating Field Guide, FEMA 329. September 2010

Note 3: CalEEMod User Guide

Hardscape Demolition

Weight of Hardscape 145 lb/ft3

Area	Height (ft)	Area (ft2)	Volume (cf)	Weight (lbs)	Weight (tons)
1	0.5	29000	14500	2102500	1051
2	0.5	44000	22000	3190000	1595
3	0.5	25000	12500	1812500	906
Total		98000	49000	7105000	3553

Total Demolition Weight 8441 tons

Vehicle Trips

Haul Truck Capacity	20 tons
Number of Trucks	422 trucks
Number of Truck Trips	844 truck trips



Moiola Park Residential Project

Construction Equipment Fuel Usage

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor	Days of Construction	Total Horsepower-hours	Fuel Rate (gal/hp-hr)	Fuel Use (gallons)
Demolition	Concrete/industrial saws	1	8	81	0.73	20	9,461	0.023965	227
	Excavator	3	8	158	0.36	20	27,302	0.019763	540
	Rubber Tired Dozer	2	8	247	0.4	20	31,616	0.020461	647
Site Preparation	Rubber Tired Dozer	3	8	247	0.4	10	23,712	0.020461	485
	Crawler Tractor	4	8	212	0.43	10	29,171	0.022173	647
Grading	Excavators	2	8	158	0.38	30	28,819	0.019763	570
	Graders	1	8	187	0.41	30	18,401	0.021143	389
	Rubber Tired Dozers	1	8	247	0.4	30	23,712	0.020461	485
	Crawler Tractor	2	8	212	0.43	30	43,757	0.022173	970
	Scrapers	2	8	367	0.48	30	84,557	0.024983	2,112
Building Construction	Crane	1	7	231	0.29	300	140,679	0.014896	2,096
	Forklifts	3	8	89	0.2	300	128,160	0.019105	2,449
	Tractors/Loaders/Backhoes	3	7	97	0.37	300	226,107	0.023965	5,419
	Welders	1	8	46	0.45	300	49,680	0.023965	1,191
	Generator Set	1	8	84	0.74	300	149,184	0.023965	3,575
Paving	Pavers	2	8	130	0.42	20	17,472	0.021525	376
	Paving Equipment	2	8	132	0.36	20	15,206	0.018334	279
	Rollers	2	8	80	0.38	20	9,728	0.019412	189
Architectural Coating	Air Compressor	1	6	78	0.48	20	4,493	0.023965	108

Fuel Consumption rates derived from the ARB OFFROAD2017 - Orion Web Database

Total 22,751

Moiola Park Residential Project

Fuel Consumption from Construction Vehicles (Derived from the ARB EMFAC2017 Mobile Source Emission Model)

Emission Factors

Region (County)	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VTM (miles/day)	Fuel Consumption (1000 gallons/day)	Fuel Rate (miles/gallon)
ORANGE COUNTY	2021	MHDT-T6	Aggregated	Aggregated	DSL	1820284	173.0	10.5
ORANGE COUNTY	2021	HHDT-T7	Aggregated	Aggregated	DSL	1223413	186.9	6.5
						Average (50%/50%)		8.5
ORANGE COUNTY	2021	LDA	Aggregated	Aggregated	GAS	49395345	1598	30.9
ORANGE COUNTY	2021	LDT1	Aggregated	Aggregated	GAS	5154285	194	26.6
ORANGE COUNTY	2021	LDT2	Aggregated	Aggregated	GAS	16989289	697	24.4
						Average (50%/25%/25%)		28

Vehicle Assumptions (CalEEMod)

Haul trucks represented by HHDT-T7 (heavy -heavy duty haul truck)

MHDT-T6 (medium heavy duty haul truck)

Vendor trucks assumed to be 50% HHDT-T7 and MHDT-T6)

LDA (light duty automobile for worker vehicles)

LDT1 (light duty truck 1 for worker vehicles)

LDT2 (light duty truck 2 for worker vehicles)

Worker vehicles represented as 50% LDT, 25% LHT1, and 25% LDT2

Construction Vehicle Use (Derived from the CalEEMod model output)

Fuel Consumption for Haul Trucks

Construction Activity	No Haul Truck Trips	Trip Length	VTM (miles)	DSL Fuel (gallons)
Demolition	844	20	16880	1978
Site Preparation	0	20	0	0
Grading	3750	20	75000	8788
Building Construction	0	20	0	0
Paving -	0	20	0	0
Architectural Coating	0	20	0	0
Total	4594		91880	14039

Construction Activity	No Vendor Truck Trips/day	Duration (days)	Trip Length (miles)	VTM (miles)	Fuel	Fuel Rate (miles/gallon)	DSL Fuel (gallons)
Demolition	0	20	6.9	0	DSL	8.5	0
Site Preparation	0	10	6.9	0	DSL	8.5	0
Grading	0	30	6.9	0	DSL	8.5	0
Building Construction	8	300	6.9	16560	DSL	8.5	1940
Paving	0	20	6.9	0	DSL	8.5	0
Architectural Coating	0	20	6.9	0	DSL	8.5	0
Total							1940

Activity	No Worker Vehicles Trips/day	Duration (days)	Trip Length (miles)	VTM (miles)	Fuel	Fuel Rate (miles/gallon)	Gas Fuel (gallons)
Demolition	15	20	14.7	4410	GAS	28	156
Site Preparation	18	10	14.7	2646	GAS	28	94
Grading	20	30	14.7	8820	GAS	28	313
Building Construction	27	300	14.7	119070	GAS	28	4223
Paving	15	20	14.7	4410	GAS	28	156
Architectural Coating	5	20	14.7	1470	GAS	28	52

Summary		Gallons	
Total - DSL		15980	
Total - GAS		4994	