Appendix A
Air Quality, Greenhouse Gas, & Energy Impact Analysis

CalEEMod Emission Summary

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DATE: September 26, 2023

SUBJECT: Summary of CalEEMod Model Runs and Output for the Great Scott Tree Care Project Orange County

SECTION 1: PROJECT INFORMATION

1.1 - Project Name

Great Scott Tree Care Project Orange County (Project – GSTC-OC)

1.2 - Project Location

The Project is located in the City of Lake Forest, west of Linear Lane, north of Canada Road, with Serrano Creek bordering the Project site to the south and east. Regional access to the Project site is provided by State Route 241 (SR-241), located approximately 0.5 miles northeast of the Project site, and Interstate I-5 (I-5), located about 3.45 miles southwest of the Project site. Local access to the Project site is provided by Linear Lane and Canada Road, accessed by Dimension Drive and Lake Forest Drive or Bake Parkway.

1.3 - Project Description

The Project proposes to rehabilitate one existing single-family residence as an office for the GSTC-OC administrative functions alongside the removal of a second residence converted for office use after receipt of a demolition permit from the City of Lake Forest. Furthermore, the undertaking encompasses establishing parking zones dedicated to the tree service vehicles, referred to as "Tree Trucks" and equipment. Although wood chipping is currently not planned, it is desired in the future as it necessitates the installation of robust concrete "backstops" to facilitate the maneuvering of tractor loaders during chipping. The operational configuration and flow of Tree Truck locations for chipping are anticipated to evolve for heightened efficiency over time. Additional considerations regarding the strategy, approach, and location for wood chipping are pending discussion in relation to the use permit. Most of the parking areas will have permeable gravel surfaces to encourage percolation into the soil rather than runoff, requiring substantial water quality features. Table 1 provides the Project's land-use assumptions in this assessment. The balance of the Project site, 4+ acres, is comprised of natural vegetation.

Table 1: Project Land-Use Assumptions

CalEEMod Land –Use Assumption	Size	Comment
General Light Industry	5,899 sqft	Office Building and Barn
Other Non-Asphalt Surfaces	35,000 sqft	Unpaved Permeable Gravel Area
Paved Parking	5,600 sqft	Parking Area
Landscaping	7,500 sqft	Landscaping
sqft = square feet Source: Project Description		

1.4 - Purpose of the Report

This report summarizes the results of the Project construction and operational criteria pollutant and greenhouse gas (GHG) emissions and energy usage estimates using the California Emissions Estimator Model (CalEEMod Version 2022.1) land use emission model. The analysis compared the estimated Project emissions to the numerical air quality and GHG significance thresholds recommended by the South Coast Air Quality Management District (SCAQMD).

1.5 - Conclusions

- The Project's construction and operation would not exceed any project-level criteria pollutant regional or localized emission significance thresholds recommended by the SCAQMD. No mitigation is required

- The Project's construction and operation would not result in a cumulatively significant impact on the region's air quality. No mitigation is required.

- The Project's construction and operation would neither exceed the greenhouse gas significance threshold adopted for this Project nor conflict with any applicable plan, policy or regulation adopted to reduce greenhouse gas emissions. No mitigation is required.

- The Project construction and operation would not result in the wasteful, inefficient, and unnecessary consumption of energy, especially fossil fuels such as natural gas and petroleum, associated with Project design, Project location, the use of electricity and natural gas, and the use of fuels by vehicles anticipated to travel to and from the Project. No mitigation is required.

SECTION 2: CALEEMOD EMISSION ESTIMATES – CRITERIA POLLUTANTS

This section quantifies the Project construction and operational criteria pollutant emissions[1] and compares the emissions to the regional and local emission significance thresholds recommended by the SCAQMD.

2.1 - Significance Thresholds-Criteria Pollutants

The City has adopted air quality significance thresholds as part of its 2020 CEQA Guidelines, specifically, *City of Lake Forest CEQA Significance Thresholds Guide, Appendix 1, Section 4*[2]. The City air quality thresholds are based on the regional and localized significance thresholds recommended by the SCAQMD. As a result, the SCAQMD air quality significance thresholds are incorporated herein by reference[3]. All air quality significance thresholds in this report will be referred to as the SCAQMD significance thresholds. These significance thresholds were applied in assessing the regulatory significance of the Project's emissions.

2.1.1 Regional Emission Significance Thresholds

An individual project's incremental regional air quality impacts are generally very small and difficult to measure. However, the SCAQMD's regional significance thresholds define 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 (PM_{10} and $PM_{2.5}$), and reactive organic gases (ROG). The quantification of regional emissions includes those project emissions generated from onsite emission sources (i.e., off-road construction equipment, fugitive dust) and offsite emission sources (vehicle travel to and away from the project). Table 2 shows the SCAQMD's regional significance thresholds.

Table 2: SSCAQMD 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

[1] Criteria 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 (SO_x), and particulate matter (PM_{10} 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] City of Lake Forest CEQA Significance Thresholds Guide, July 21, 2020. Website: https://lakeforestca.gov.DocumentCenter/View/823/CEQA-Significance-Thresholds-Guide-2020--Transpo-Analysis-GuidelinesPDF

[3] SCAQMD 2019. SCAQMD Air Quality Significance Thresholds. Website:http://www.aqmd.gov/docs/default/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf

Air Pollutant	Maximum Daily Emissions (pounds/day)	
	Construction	Operation
Reactive Organic Gases	75	55
Source: SCAQMD[3]		

2.1.2 Localized Significance Thresholds

Project-related construction or operational air emissions may potentially 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. The SCAQMD has established that air quality impacts are significant if there is a potential for a project's emissions to contribute or cause localized exceedances of the federal and/or State ambient air quality standards (NAAQS/CAAQS). To address the potential local air quality impacts from a project's construction and operation, the SCAQMD has developed localized significance thresholds (LST). The LSTs represent the maximum rates of daily construction or operational emissions from a project site that would not result in air pollutant levels exceeding national or State ambient air quality standards (SCAQMD 2003[4],2008[5]).

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 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 (PM_{10} and $PM_{2.5}$), while the regional thresholds include ROG and SO_x.

- Third, the regional thresholds apply to emission sources regardless of where the source is located within the SCAQMD. In contrast, the LSTs depend on the project's size and emission location relative to the nearest local sensitive receptor[6].

For this localized assessment, the SCAQMD provides screening emission look-up tables for projects that disturb a maximum of 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, PM_{10}, and $PM_{2.5}$ from a project could significantly impact the local air quality. This analysis determined the appropriate LSTs based on the Project's source receptor area (SRA)[7], size, and distance to the nearest local sensitive receptor. The SCAQMD has divided the SCAQMD into 38 SRAs, each with a set of LSTs that depend on the air pollutant, project size, and distance to the nearest

[4] 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

[5] 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

[6] The SCAQMD defines a sensitive receptor 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.

[7] 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

sensitive receptor. The Project site is located within SRA 19, Saddleback Valley. The LSTs for this SRA were applied in this LST assessment.

LSTs for Construction

The CalEEMod model (Version 2022.1) was applied to determine the maximum daily onsite emissions during construction based on construction activity, equipment fleet, and hours. The SCAQMD has published a "Fact Sheet for Applying CalEEMod to Localized Significance Thresholds" (SCAQMD 2011)[8]. This fact sheet is used to determine the maximum site acreage that is actively disturbed in a day based on the construction equipment fleet and equipment hours as estimated in the CalEEMod model.

The LSTs are determined by:

- Source receptor area (SRA), the geographic area within the SCAQMD that can act as both a source of emissions and a receptor of emission impacts (the Project is located within SRA 19, Saddleback Valley);
- Size of the Project (the maximum area to be disturbed in a day); and
- Distance to the nearest sensitive receptor

The LST methodology estimates the emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. The methodology uses linear interpolation to determine the thresholds for project sizes between the values given or with receptors at distances between the given receptors.

The estimated onsite Project construction emissions are then compared to the LSTs to determine if the Project construction will have a localized air quality impact.

Table 3 shows the conceptual construction schedule as provided by the Project applicant. From Table 4, it is noted that several construction activities overlap in time. Therefore, the emissions from these overlapping construction activities are summed together to determine the maximum emissions that would occur in a single day.

[8] 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 3: Construction Schedule

Activity	Start Date	End Date	Total Days
Demolition	April 1, 2024	April 30, 2024	22
Site Preparation	April 1, 2024	April 30,2024	22
Grading	April 1, 2024	May 30,2024	44
Infrastructure	April 1, 2024	May 31, 2024	45
Building Construction	April 1, 2024	June 30, 2024	44
Paving	June 2, 2024	June 30, 2024	20
Architectural Coating	June 2, 2024	June 30, 2024	20
Source: see Data Attachment			

Table 4 shows the maximum daily disturbed acreage during site demolition, site preparation, grading, and infrastructure during the principal dust-generating activities based on the types and numbers of construction equipment used for each construction activity identified by the CalEEMod model.

Based on the construction schedule, the construction activities resulting in the maximum disturbed area would occur when the demolition, site preparation, grading, and infrastructure activities would overlap in time. The information in Table 4 indicates that the total Project area that would be disturbed given the overlapping of Project construction activities, is 4 acres. However, the actual physical area of the Project site that would experience construction disturbances is approximately 2.5 acres. Therefore, it was assumed that the entire 2.5 acres would be disturbed in a day during construction. As a result, the LST construction area was set at 2.5 acres.

Table 4: Equipment Demolition, Site Preparation, Grading, and Infrastructure Disturbed Area Rates

Activity	Equipment Type	Equipment Quantity	Acres Disturbed per 8-hour Day	Operating Hours per Day	Acres Graded per Day
Demolition	Concrete/Industrial Saws	1	0.0	8	0
	Tractors/Loaders/Backhoes	3	0.0	8	0
	Rubber Tired Dozers	1	0.5	8	0.5
					Total: 0.5 acres
Site Preparation	Scraper	1	1.0	8	1.0
	Graders	1	0.5	8	0.5
	Tractors/Loaders/Backhoes	1	0.0	8	0
					Total 1.5 acres
Grading	Rubber Tired Dozer	1	0.5	8	0.5
	Graders	1	0.5	8	0.5

Activity	Equipment Type	Equipment Quantity	Acres Disturbed per 8-hour Day	Operating Hours per Day	Acres Graded per Day
	Tractors/Loaders/Backhoes	1	0.0	8	0.0
					Total 1.0 acr
Infrastructure	Crawler Tractors	1	0.5	8	0.5
	Excavator	1	0.0	8	0.0
	Rubber Tired Dozer	1	0.5	8	0.5
					Total 1.0 acres
					Total disturbed acreage: 4 acres/day **Actual area set to 2.5 acres, the physical area of the Project site that would be constructed**
Source: Table 7 shows the construction inventory developed for the demolition, site preparation, grading, and infrastructure activities as derived from the CalEEMod model.					

The LST specification also depends on the distance to the nearest sensitive receptor and the duration for which a receptor may be exposed to air pollution. The SCAQMD considers a sensitive receptor to be a location such as a residence, hospital, or convalescent facility where it is possible that an individual could remain for 24 hours or longer. Commercial and industrial facilities are not included in the definition of a sensitive receptor because employees do not typically remain onsite for a full 24 hours but are present for shorter periods, such as eight hours[9].

A mix of industrial and commercial uses surrounds the Project location. The closest sensitive receptor where such a receptor could reside for 24 hours or longer is located at existing residences situated about 75 meters to the south of the Project across Serrano Court. Therefore, the distance for sensitive receptors in the LST assessment was set at 75 meters to quantify the LSTs for PM_{10} and $PM_{2.5}$ that require exposure periods of 24 hours. The shortest distance for worker receptors was set at 25 meters for quantifying the LSTs for NO_2 and CO that require exposure periods of up to 8 hours. Table 5 provides the applicable construction LSTs for this Project.

[9] 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

Table 5: Construction Localized Significance Thresholds

NOx (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
142	1,128	27	8
LSTs for SRA 19:Project area of 2.5 acres and a receptor distance of 25 meters for NO_2 and CO and 75 meters for PM_{10} and $PM_{2.5}$. The LSTs were interpolated from the 2 and 5 acre LSTs provided in the SCAQMD LST look-up tables Source: see Data Attachment.			

LST for Operation

The active Project area is approximately 2.5 acres in size. Therefore, the LSTs for a 2.5-acre operational area were used to estimate the operational LSTs in this assessment. Table 6 presents the operational LSTs for this Project.

Table 6: Operational Localized Significance Thresholds

NOx (lbs/day)	CO (lbs/day)	PM_{10} (lbs/day)	$PM_{2.5}$ (lbs/day)
142	1,128	7	3
LSTs for SRA 19, Project area of 2.5 acres and a receptor distance of 25 meters for NO_2 and CO and 75 meters for PM_{10} and $PM_{2.5}$.			

2.1.3 Cumulative Significance Thresholds

The SCAQMD has published the following report on addressing cumulative impacts from air pollution: White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution (SCAQMD)[10]. The SCAQMD considers projects exceeding the project-specific significance thresholds 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 US Environmental Protection Agency currently designates the South Coast Air Basin, where the Project is located as nonattainment for ozone, PM_{10}, and $PM_{2.5}$. Air pollution is largely a cumulative impact resulting from emissions generated over a large geographic region. The nonattainment status of regional pollutants results from 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 to result in nonattainment of regional air quality standards. Instead, a project's emissions may be individually limited, but cumulatively considerable when combined with past, present, and future development projects.

Therefore, the determination of cumulative air quality impacts for construction and operational emissions was based on whether the project would result in regional emissions that exceed SCAQMD regional

[10] SCAQMD 2003. White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution

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.

2.2 - Criteria Pollutant Emission and Impact Estimates

2.2.1 Project Emissions

Construction

Construction emissions can vary substantially from day to day, depending on the activity level, the specific type of operation, and prevailing weather conditions. Construction emissions result from onsite and offsite activities. Onsite emissions principally consist of exhaust emissions from heavy-duty construction equipment, motor vehicle operation, and fugitive dust (mainly PM_{10}) from disturbed soil. Additionally, paving operations and the application of architectural coatings would release VOC emissions. Motor vehicle exhaust from haul trucks, vendor delivery vehicles, worker traffic, and road dust (PM10 and PM2.5) cause offsite emissions.

*Assumption*s

- Construction Schedule: Construction is anticipated to commence in April 2024 and lasts for approximately three months. The projected occupancy is expected in June 2024.
- Existing land will be cleared of a single-family building, various sheds, and small buildings, and trees and other vegetation
- 883 cubic yards of soil import required
- Fugitive dust mitigation applied as per SCAQMD Rule 403 – Fugitive Dust (2x daily watering, 12% maintenance of soil moisture, and restricting vehicle speed on unpaved surfaces to 15 miles per hour)
- Construction schedule provided by the Project Applicant
- Construction equipment inventory derived from the CalEEMod model equipment

Table 3able 7 provides the Project's construction equipment inventory based on the Project applicant's construction schedule and the default equipment provided in the CalEEMod model for the Project size and land use. Table 8 presents the Project's construction vehicle trips.

Note that the construction schedule utilized in the analysis, shown in Table 3, represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates, impacts would be reduced since emission factors for construction decrease as time passes due to emission regulations becoming more stringent[11]. The construction activity duration and associated equipment

[11] As shown in the CalEEMod User's Guide Version 2021, Appendix G, Table G-11 "Statewide Average Annual Offroad Equipment Emission Factors";as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

represent a reasonable approximation of the expected construction fleet as required per CEQA Guidelines[12]. The duration of the construction activity was based on the information provided by the Project Applicant.

Table 7: Construction Equipment Inventory

Activity	Equipment	Project Number	Project Hours per day	Default Horse-power	Default Load Factor
Demolition	Concrete/Industrial Saws	1	8	33	0.73
	Tractor/Loader/Backhoe	3	8	84	0.37
	Rubber Tired Dozers	1	8	367	0.40
Site Preparation	Grader	1	8	148	0.41
	Tractor/Loader/Backhoe	1	7	84	0.37
	Scraper	1	8	423	0.48
Grading	Rubber Tired Dozer	1	8	367	0.40
	Graders	1	8	148	0.41
	Tractor/Loader/Backhoe	2	7	84	0.37
Infrastructure	Crawler Tractors	1	8	87	0.43
	Excavator	1	8	36	0.38
	Rubber Tired Loader	1	8	150	0.36
Building Construction					
	Tractors/Loaders/Backhoes	1	6	84	0.37
	Welders	3	8	46	0.45
	Generator Set	1	8	14	0.74
Paving	Cement and Motor Mixers	1	6	10	0.56
	Tractors/Loaders/Backhoes	1	8	97	0.37
	Pavers	1	6	81	0.42
	Paving Equipment	1	8	89	0.36
	Rollers	2	8	36	0.38
Architectural Coating	Air Compressor	1	6	37	0.48
Source: see Data Attachment					

[12] State of California. 2019 CEQA California Environmental Quality Act. 2019

Table 8: Construction Vehicle Trips

Activity	Construction Trips per Day		
	Worker	Vendor	Haul
Demolition	13	0	6
Site Preparation	8	0	0
Grading	10	0	3
Infrastructure	8	0	0
Building Construction	2	1	0
Paving	15	0	0
Architectural Coating	2	0	0
Source: see Data Attachment			

Table 9 presents the Project's estimated maximum daily regional construction emissions. As noted in Table 9, the Project's construction would not exceed the SCAQMD's regional emission significance thresholds. Table 10 presents the results of the Project's localized construction impact assessment. From Table 10, the Project's construction would not exceed the SCAQMD's construction localized emission significance thresholds.

Table 9: Estimated Maximum Daily Regional Construction Emissions

Construction Activity	Maximum Daily Regional Emissions[1] (pounds/day)					
	ROG	NO_X	C0	SO_x	PM_{10}	$PM_{2.5}$
2024						
Demolition	1.7	16.2	17.0	0.0	1.3	0.8
Site Preparation	1.3	12.7	11.9	0.0	0.7	0.5
Grading	1.7	16.1	16.1	0.0	3.7	2.1
Infrastructure	0.7	5.5	7.2	0.0	0.4	0.3
Building Construction	0.8	5.8	7.2	0.0	0.2	0.2
Paving	0.9	6.5	9.2	0.0	0.5	0.4
Architectural Coating	4.0	0.9	1.1	0.0	0.0	0.0
Maximum Daily Emissions[1]	6.2	56.3	59.4	0.0	6.3	3.8
SCAQMD Significance Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Construction Activity	Maximum Daily Regional Emissions[1] (pounds/day)					
	ROG	NO_x	C0	SO_x	PM_{10}	$PM_{2.5}$

Notes:
[1] Overlapping construction during demolition + Site Preparation + Grading + Infrastructure + Building Construction
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 Data Attachment

Table 10: Estimated Maximum Daily Localized Construction Emissions

Construction Activity	Maximum Daily Localized Emissions (pounds/day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
2024				
Demolition	15.6	16.0	1.0	0.7
Site Preparation	12.7	11.4	0.6	0.5
Grading	15.9	15.4	3.5	2.0
Infrastructure	5.5	6.7	0.3	0.3
Building Construction	5.8	7.0	0.2	0.2
Paving	6.4	8.3	0.3	0.3
Architectural Coating	0.9	1.1	0.0	0.0
Maximum Daily Emissions[1]	**55.5**	**56.5**	**5.6**	**3.7**
SCAQMD Significance Thresholds	142	1,128	27	8
Emissions Exceed Thresholds?	**No**	**No**	**No**	**No**

Notes:
[1] Overlapping construction during demolition + Site Preparation + Grading + Infrastructure + Building Construction
NOx = 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
Construction area of 2.5 acres; receptor distance for NO_x and CO = 25 meters; receptor distance for PM_{10} and $PM_{2.5}$ = 75 meters
Source: see Data Attachment

Project Operational Emissions

Assumptions

- Number of daily vehicle trips provided by the Project Trip Generation Analysis[13]
- Fleet mix provided by the Project Trip Generation Analysis
- Vehicle trip lengths provided by the Project Applicant

The Project's day-to-day operations would generate the Project's long-term operational emissions.

[13] Project Trip Generation Analysis, EPDS. September 14, 2023

Operational emissions for land-use development projects are typically distinguished as mobile, area, and energy-source emissions.

Mobile-Source Emissions

Mobile-source emissions are associated with Project-related automobiles and other motor vehicles that would travel to and from the Project site. The vehicle emission estimate requires information on the number of vehicle trips, the vehicle fleet mix, and the distance the vehicles travel during each trip. According to the Project's Trip Generation Analysis, the Project is expected to generate 142 daily weekday trips. Table 11 provides information on the number of daily operational trips and the types of vehicles used during the Project's operation. As noted, approximately 48 percent of the daily trips are associated with passenger vehicles, while the remaining vehicle trips are comprised of supervisor vehicles and field equipment/field trucks (dump trucks and boom trucks). The dump trucks and boom trucks were assumed to be medium-heavy duty diesel trucks, as provided by the Project Applicant. Note also that ten of the field equipment trucks were assumed to be equipped with a wood chipper[14]. The supervisor trucks were assumed to be light heavy-duty trucks.

Table 11: Project Daily Trip Generation

Land Use	Daily Trips(1)
Office Employees	10
Supervision	16
Field Employees	58
Field Equipment/Tree Trucks	58
Total All Vehicles	142

Note:
(1) All field equipment was assumed to be comprised of medium-heavy duty diesel trucks of 19,500 to 26,000 gross vehicle weight Supervisor trucks were assumed to be light heavy-duty trucks. All passenger vehicles were assumed to be light-duty automobiles.
Source: Project Trip Generation Analysis, EPDS September 14, 2023

Estimating vehicle emissions also requires information on the daily average distance each vehicle travels. The objective of this Project is to reduce travel time and distance. The Project applicant anticipates that the average one-way trip for the Project's field equipment/tree trucks and supervisor vehicles is 30 miles. An average trip distance of 20 miles was assumed for workers as provided by the Project applicant.

As discussed earlier, the localized assessment of Project impacts only considers emissions generated from onsite emission-producing activities. The CalEEMod model does not separate mobile source emissions from those generated from onsite and offsite emissions. Based on the Project site's intended vehicle

[14] The wood chippers are 140 horsepower diesel engines that are registered with the California Air Resources Board's Portable Equipment Registration Program; the Project Applicant indicates that the wood chippers are in the process of being converted to gasoline, however, the emission analysis assumed each chipper was diesel-fueled; each wood chipper was assumed to operate for 4 hours per day.

circulation plan, an average onsite trip travel distance of 0.1 miles was assumed to estimate onsite mobile source emissions for the LST operational assessment.

Area Source Emissions

Operational activities associated with the Project will result in emissions of various air pollutants. Operational emissions are expected from the following area sources:

- Architectural coatings – periodic painting maintenance
- Consumer products – use of products including detergents, cleaning compounds, polishes, and lawn and garden products
- Landscape maintenance equipment – combustion and evaporation of unburned fuel from the operation of lawnmowers, grinders, blowers, trimmers, and chainsaws.

Energy Emissions

- Combustion of natural gas within buildings
- Production of electricity that takes place offsite at electrical generating facilities

Onsite Support Equipment Emissions

The operational emissions also include the operation of a future wheeled loader to transport various processed materials from the chipping operations within the Project site.

Table 12 summarizes the Project's regional operational emissions along with a comparison to the SCAQMD's regional significance thresholds. As noted in Table 12, the Project's regional operational emissions are less than the SCAQMD regional significance thresholds.

Table 13 provides the localized operational emissions results compared to the SCAQMD localized significance thresholds. From Table 13, the Project's localized operational emissions are less than the SCAQMD localized significance thresholds.

Table 12: Estimated Maximum Daily Regional Operational Emissions

Emission Source	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area	0.2	<0.1	0.3	<0.1	<0.1	<0.1
Energy	0.0	0.1	0.1	<0.1	<0.1	<0.1
Mobile	0.3	7.9	6.4	0.1	3.1	0.9
Offroad (Chippers)	1.5	12.0	20.2	<0.1	0.7	0.6
Onsite Support Equipment	0.1	0.9	1.6	<0.1	0.1	0.1

Emission Source	Maximum Daily Regional Emissions (pounds/day)					
	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Total Project Operational Emissions	2.1	20.8	28.6	0.1	3.8	1.5
SCAQMD Significance Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Notes:
NOx = 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 Data Attachment

Table 13: 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	0.3	<0.1	<0.1
Energy	0.1	0.1	<0.1	<0.1
Mobile	0.9	1.1	<0.1	<0.1
Onsite Support Equipment	0.9	1.6	0.1	0.1
Total Project Operational Emissions	1.9	3.1	0.1	0.1
SCAQMD Significance Threshold	142	1,128	7	3
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes:
NOx = 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 Data Attachment

2.2.2 Cumulative Impacts

Construction

As shown above in Table 9, the Project's maximum daily regional construction emissions would not exceed SCAQMD's regional significance thresholds. Therefore, the Project's construction emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. Furthermore, all construction activities would comply with applicable SCAQMD rules and regulations, including Rule 403 to minimize fugitive PM dust emissions. Therefore, the cumulative impacts of the short-term construction of the Project would be less than significant.

Operations

As shown in Table 12 above, the Project's maximum daily operational emissions would not exceed SCAQMD's regional significance thresholds. Therefore, the Project's operational emissions would not result in a cumulatively considerable incremental contribution to the existing air quality. The cumulative impact of the long-term operation of the Project would be less than significant.

2.3 - Conclusion

The Project's construction and operational emissions would not exceed the SCAQMD's established project-level or cumulative regional or localized significance thresholds during either construction or operation. No mitigation is required.

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

To guide local lead agencies in assessing GHG emissions' significance 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) in September 2010[15], SCAQMD identified a tiered approach for evaluating GHG emissions for development projects where SCAQMD is not the lead agency (SCAQMD 2010).

- Tier 1. If a project is exempt from CEQA, project-level and cumulative GHG emissions are less than significant.

- Tier 2. If the project complies with a GHG emissions reduction plan or mitigation program that avoids or substantially reduces GHG emissions in the project's geographic area (e.g., city or county), project-level and cumulative GHG emissions are less than significant.

- Tier 3. If GHG emissions are less than the screening-level threshold, project-level and cumulative GHG emissions are less than significant.

For projects that are not exempt or where no qualifying GHG reduction plans are directly applicable, SCAQMD requires an assessment of GHG emissions. Project-related GHG emissions include on-road transportation, energy use, water use, wastewater generation, solid waste disposal, area sources, off-road emissions, and construction activities. The SCAQMD Working Group identified that because construction activities would result in a "one-time" net increase in GHG emissions, construction activities should be amortized into the operational phase GHG emissions inventory based on the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame, since this is a typical interval before a new building requires the first major renovation. SCAQMD identified a screening-level threshold of 3,000 $MTCO_2e$ annually for all land-use types or the following land-use specific thresholds: 1,400 $MTCO_2e$ for commercial projects, 3,500 $MTCO_2e$ for residential projects, and 3,000 $MTCO_2e$ for mixed-use projects. These bright-line thresholds are based on a review of the Governor's Office of Planning and Research database of CEQA projects. Based on their 711 CEQA projects review, 90 percent of CEQA projects would exceed the bright-line thresholds. For purposes of this assessment, a significance threshold of 3,000 $MTCO_2e$ was used as the threshold for this assessment. Thus, and based on guidance from the SCAQMD, if a non-industrial project would emit GHGs less than 3,000 $MTCO_2e$ per year, the project is not considered a substantial GHG emitter and the GHG impact is less than significant, requiring no additional analysis and no mitigation. The SCAQMD's interim thresholds use the Executive Order S-3-05 goal as the basis for the Tier 3 screening levels. Achieving the Executive Order's objectives would contribute to worldwide efforts to cap CO_2 concentrations at 450 ppm, stabilizing global climate change.

[15] SCAQMD 2010. Greenhouse Gas CEQA Significance Thresholds Stakeholder Working Group Meeting #15. Website: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting

3.2 - Project GHG Emissions

3.2.1 Construction

Table 14 summarizes the Project's construction GHG emissions. As per SCAQMD guidance, the Project's construction emissions are amortized over 30 years and added to the operational emissions to quantify the Project's total GHG emissions.

Table 14: Project Construction GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2024	172
Total Emissions Amortized Over 30 years	6
Source: see CalEEMod output	

3.2.2 Operations

Table 15 summarizes the Project's operational GHG emissions, construction GHG emissions, and the total Project GHG emissions. The Project would result in GHG emissions of 1,738 $MTCO_2e$ per year. This level of emissions does not exceed the 3,000 $MTCO_2e$ per year significance threshold adopted for this Project. Therefore, the Project would have a less than significant individual and cumulative impact on GHG emissions.

Table 15: Project Operational GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)[1]
Project Operational Emissions	
Area	<1
Energy	23
Mobile	1,292
Waste	2
Water	3
Refrigerated	<1
Offroad (Chippers)	30
Onsite Support Equipment	380
Total	1,732
Project Construction Emissions	6
Project Construction and Operation	1,738
Significance Threshold	**3,000**
Project Exceeds Threshold?	**NO**

Activity	Annual GHG Emissions ($MTCO_2e$)[1]
Note: CO_2 comprises over 99 percent of the indicated CO_2- equivalent emissions, with the remainder consisting of methane and nitrous oxide emissions Source: see Data Attachment	

3.3 - Consistency with Applicable Plans, Policy or Regulations Adopted for the Purpose of Reducing GHG Emissions

As noted in the previous section, the Project would not exceed the SCAQMD's recommended GHG significance threshold of 3,000 MT CO_2e per year. Because the Project would not exceed the threshold, this analysis supports the conclusion that the Project would not impede the State's trajectory toward the above-described statewide GHG reduction goals for 2045.

Notwithstanding, the analysis provided below examines the Project's consistency with the various state and local programs to reduce future GHG levels. Several plans and policies have been adopted to reduce GHG emissions in the Southern California region, including the State's 2008, 2017, and 2020 Scoping Plans, and local policies in the City's General Plan. The following subsections discuss the Project's consistency with these plans. As discussed therein, the Project would not conflict with plans and policies aimed at reducing GHG emissions. Project impacts are less than significant.

3.3.1 California Scoping Plans

The principal state plan and policy are set forth in Executive Order S-03-05, Assembly Bill (AB 32), the California Global Warming Solutions Act of 2006[16], and the subsequent Senate Bill (SB 32), the California Global Warming Solutions Act of 2006[17]: emissions limit (2015-2016). The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. AB32 required the CARB to develop a Scoping Plan that describes California's approach to reduce GHGs to achieve the 2020 emission target.

In November 2017, CARB released the Final 2017 Scoping Plan Update (2017 Scoping Plan), which identifies the State's post-2020 reduction strategy. The 2017 Scoping Plan reflects the 2030 target of a 40% reduction below 1990 levels, set by Executive Order B-30-15 and codified by SB 32. The proposed Second Update builds upon key programs including the Cap-and-Trade Regulation, the Low Carbon Fuel Standard and much cleaner cars, trucks, and freight movement, utilizing cleaner, renewable energy, and strategies to reduce CH_4 emissions from agricultural and other wastes. The 2017 Scoping Plan establishes a new emissions limit of 260 MMTCO2e for the year 2030, which corresponds to a 40% decrease in 1990 levels by 2030

[16] AB32 The Global Warming Solutions act of 2006. Website: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2008-scoping-plan-documents
[17] SB32 2016. The Global Warming Solutions act of 2006: emissions 2015-2016. Website: https://leginfo.legislature.ca.gov/faces/billCompareClient.xhtml?bill_id=201520160SB32

On December 15, 2022, CARB adopted the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan)[18]. The 2022 Scoping Plan builds on the 2017 Scoping Plan and the requirements set forth by AB 1279, which directs the State to become carbon neutral no later than 2045. To achieve this statutory objective, the 2022 Scoping Plan outlines how California can reduce GHG emissions by 85% below 1990 levels and achieve carbon neutrality by 2045. The Scoping Plan scenario to do this is to "deploys a broad portfolio of existing and emerging fossil fuel alternatives and clean technologies, and align with statutes, Executive Orders, Board direction, and direction from the governor." The 2022 Scoping Plan sets one of the most aggressive approaches to reach carbon neutrality in the world. Unlike the 2017 Scoping Plan, CARB no longer includes a numeric per capita threshold and instead advocates for compliance with a local GHG reduction strategy (CAP) consistent with CEQA Guidelines section 15183.5. The key elements of the 2022 CARB Scoping Plan focus on transportation - the regulations that will impact this sector are adopted and enforced by CARB on vehicle manufacturers and outside the jurisdiction and control of local governments. The Project's consistency with the 2022 Scoping Plan is discussed below. It should be noted that the Project's consistency with the 2022 Scoping Plan also satisfies its consistency with AB 32 since the 2022 Scoping Plan is based on the overall targets AB 32 and SB 32 established. Consistency with the 2008 and 2017 Scoping Plan is unnecessary since the 2022 Scoping Plan has superseded both plans.

The Project would not impede the State's progress towards carbon neutrality by 2045 under the 2022 Scoping Plan. The Project would be required to comply with applicable current and future regulatory requirements promulgated through the 2022 Scoping Plan. Some of the current transportation sector policies the Project will comply with (through vehicle manufacturer compliance) include: Advanced Clean Cars II, Advanced Clean Trucks, Advanced Clean Fleets, Zero Emission Forklifts, the Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, In-use Off-Road Diesel-Fueled Fleets Regulation, Off-Road Zero-Emission Targeted Manufacturer rule, Clean Off-Road Fleet Recognition Program, Amendments to the Inuse Off-Road Diesel-Fueled Fleets Regulation, carbon pricing through the Cap-and-Trade Program, and the Low Carbon Fuel Standard. As such, the Project would be consistent with the 2022 Scoping Plan.

3.3.2 City of Lake Forest

The City of Lake Forest Recreation and Resources Element of the City of Lake Forest General Plan[19] includes goals, policies, and actions addressing air quality and GHG emissions (Goal RR-4). Table 18 summarizes the Project consistency with the GHG Goal RR4-Actions. As shown in Table 18, the Project is consistent with the City of Lake Forest General Plan's Recreation and Resources Element actions.

[18] ARB. 2022 Scoping Plan for Achieving Carbon Neutrality. AB 32 Climate Change Scoping Plan | California Air Resources BoardWebsite:

[19] City of Lake Forest General Plan, Recreation and Resources Element 2015. Website: https://lakeforestca.gov/DocumenCenter/View/10652/Recreation-and-Resources-Element

Table 16: Project Consistency with the City of Lake Forest GHG Goal RR-4 Actions

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4d. Continue to review development projects to ensure that all new public and private development complies with the California Code of Regulations (CCR), Title 24 standards as well as the energy efficiency standards established by the Lake Forest Municipal Code.	**Consistent**: The Project will comply with the latest regulations under Title 24, CalGreen, and the City of Lake Forest
RR-4e. Monitor GHG emissions generated by the community over time for consistency with the established GHG reduction targets, and update the City's community GHG Inventory every five years. In the event that the City determines that ongoing efforts to reduce GHG emissions are not on track to meet the City's adopted GHG reduction targets, the City shall establish and adopt new and/or revised GHG reductions measures that will effectively meet the established GHG reduction targets.	**Consistent**: The Project will comply with any new GHG emission regulations promulgated by the City of Lake Forest.
RR-4f: Provide the necessary facilities and infrastructure to facilitate the use of City-owned low or zero-emission vehicles such as electric vehicle charging facilities and conveniently located alternative fueling stations at key City facilities as operations necessitate and/or as funding becomes available.	**Not applicable**. The is a City requirement
RR-4g: Evaluate and consider multi-modal transportation benefits to all City employees, such as free or low-cost monthly transit passes. Encourage employer participation in similar programs. Encourage new transit/shuttle services and use.	**Consistent**: The applicant indicates that several employees carpool to work each day to minimize VMT and fuel consumption.
RR-4j: Encourage community car-sharing and carpooling.	**Consistent**: The applicant indicates that several employees do carpool to work.
RR-4K: Establish and adopt standards and requirements for electric vehicle parking, including minimum requirements for the installation of electric vehicle charging stations in new multi-family residential and commercial, office, and light industrial development.	**Consistent:** The Project will provide for an electric vehicle charging stall.
RR-4l: Periodically review and update the City's Green Building Program to reflect best practices, such as encouraging the use of cement substitutes and recycled building materials for new construction.	**Consistent:** The Project will implement the elements of the City's Green Building Program.

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4m: Update the City's Green Building Program to promote the reduction of urban heat islands through vegetation management and cool surfaces. Encourage multi-family residential and non- residential development to increase the use of higher-albedo materials for surfaces including roofs, parking areas, driveways, roads, and sidewalks. Encourage developments with parking lot areas to shade these areas with vegetation or solar panels when appropriate. Support various programs to plant and maintain trees, which can also contribute to a reduction of urban heat islands.	**Consistent:** The Project will implement the elements of the City's Green Building Program.
RR-4n: Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD construction emission thresholds. Where emissions from individual projects exceed SCAQMD thresholds, the following actions shall be incorporated as necessary to minimize impacts. These measures do not exclude the use of other, equally effective mitigation measures. • Require a minimum of 50 percent of construction debris be diverted for recycling. • Require building materials to contain a minimum 10 percent recycled content.	**Consistent:** The Project will implement the construction debris and building material diversion and recycling requirements.

City of Lake Forest Goal RR-4 Action	Project Consistency
RR-4o: Future development projects implemented under the General Plan will be required to demonstrate consistency with SCAQMD's operational emission thresholds. For projects where operational emissions exceed regulatory thresholds, the following measures may be used to reduce impacts. Note the following measures are not all inclusive and developers have the option to add or substitute measures that are equally or more appropriate for the scope of their project. • Develop a project specific TDM program for residents and/or employees that provides opportunities for carpool/vanpools. • Provide onsite solar/renewable energy in excess of regulatory requirements. • Ensure all parking areas are wired for capability of future EV charging and include EV charging stations that exceed regulatory requirements.	**Consistent.** The Project applicant indicates that employees carpool to work each day to minimize VMT and fuel consumption. While the project currently does not include solar energy generation, the building roof structure would be designed to support solar panels in the future, consistent with Title 24 requirements. The project will provide for a EV charging station.

3.4 - Conclusion

The Project's construction and operational GHG emissions would have a less than significant individual and cumulative impact on GHG emissions. The Project would not conflict with an applicable plan, policy, or regulation adopted to reduce GHG emissions. No mitigation is required.

SECTION 4: PROJECT FUEL AND ENERGY CONSUMPTION

4.1 - Assumptions

- Construction equipment fuel consumption derived from California Air Resources Board (ARB Offroad2021 emission model and the CalEEMod construction equipment
- Fuel Consumption from vehicle travel derived from ARB EMFAC2021 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 Project. Instead, 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 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 natural gas, and 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

Southern California Edison Company would provide temporary electric power for as-necessary lighting and electronic equipment such as computers inside temporary construction trailers. 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 the Project construction. During the construction, fuels would primarily consist of diesel and gasoline, 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 vendors and haul trucks would be 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. The analysis assumed construction workers would travel to and from the site in gasoline-powered passenger vehicles. Table 17 presents the fuel usage for the off-road construction equipment. These estimates are based on the annual total fuel consumption and horsepower-hour data within the ARB OFFROAD2021 emission model for specific types of diesel

construction equipment employed in the Project construction. Note that the total fuel consumption during construction computed below likely substantially overstates the amount of fuel usage. Although construction equipment and their duration are listed under a particular construction activity, there is a likelihood that not all of the inventoried equipment would operate over the entire duration of the construction activity.

Table 18 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 as derived from the ARB EMFAC2021 model. This information is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. Table 19 summarizes the total construction fuel consumption.

4.4 - Operational Energy Requirements

Table 20 summarizes the Project's operational energy requirements.

4.5 - Conclusion

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

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, reducing reliance on natural gas and oil, and increasing reliance on renewable energy sources. The Project would comply with all energy efficiency requirements under all applicable State, county, and local business and energy code ordinances. As a result, the Project's operation would not result in inefficient, wasteful, or unnecessary energy use compared with other similar projects in the region. No mitigation is required.

Table 17: Construction Equipment Fuel Usage

Equipment Type	Equipment (Diesel)	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)
Demoliton	Tractors/Loaders/Backhoes	3	8	84	0.37	22	16,410	0.056500	927
	Rubber Tired Dozers	1	8	367	0.4	22	25,837	0.044800	1,157
	Concrete/Industrial Saws	1	8	33	0.73	22	4,240	0.0419	178
Site Preparation	Graders	1	8	148	0.41	22	10,680	0.054000	577
	Tractors/Loaders/Backhoes	1	7	84	0.37	22	4,786	0.056500	270
	Scrapers	1	8	423	0.48	22	35,735	0.047300	1,690
Grading	Graders	1	8	148	0.41	44	21,359	0.054000	1,153
	Tractors/Loaders/Backhoes	2	7	84	0.37	44	19,145	0.044800	858
	Rubber Tired Dozers	1	8	367	0.4	44	51,674	0.056500	2,920
Infrastructure	Crawler Tractors	1	8	87	0.43	45	13,468	0.058400	787
	Excavators	1	8	36	0.38	45	4,925	0.056100	276
	Rubber Tired Loaders	1	8	150	0.36	45	19,440	0.050100	974
Building Construction	Generator Sets	1	8	14	0.74	44	3,647	0.056500	206
	Tractors/Loaders/Backhoes	1	6	84	0.37	44	8,205	0.045000	369
	Welders	3	8	46	0.45	44	21,859	0.045000	984
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	20	4,973	0.041900	208
	Pavers	1	8	81	0.42	20	5,443	0.056500	308
	Paving Equipment	1	8	89	0.36	20	5,126	0.059600	306
	Rollers	2	8	36	0.38	20	4,378	0.056500	247
	Cement and Mortar Mixers	1	8	10	0.56	20	896	0.058000	52
Architectural Coating	Air Compressor	1	6	37	0.48	20	2131.2	0.045000	96
								Total	14543
Fuel Consumption rates derived from the ARB OFFROAD2021									

Table 18: Estimated Project Construction Vehicle Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Haul Trucks	872	0
Vendor Trucks	60	0
Worker Vehicles	0	1,189
Construction Vehicles Total	932	1,189
Source: see Data Attachment		

Table 19: Total Construction Fuel Usage

Construction Source	Gallons of Diesel Fuel	Gallons of Gasoline Fuel
Construction Vehicles	932	1,189
Off-road Construction Equipment	14,543	0
Construction Total	15,475	1,189
Source: see Data Attachment		

Table 20: Project Annual Operational Energy Requirements

Operational Source (value per year)		
	Annual VMT	Gallons of Fuel
Transportation – Project	1,306,781 810,300(DSL) 496,400(GAS)	79.686(DSL) 16,936(GAS)
Electricity – Project	Thousand Kilowatt-Hours	
	56,588	
Natural Gas – Project	Thousand British Thermal Units	
	252,489	
Source: see Data Attachment		

CalEEMod Model Spreadsheet Output

CalEEMod Model Spreadsheet Output

Great Scott Tree Care Project - Orange County

Update 1

Estimate of Construction LSTs

Activity	Equiment	Number	Acres Disturbed per 8-hour day	Total Area Disturbed
Demolition	Concrete/Indistrial Saw	1	0	0
	Tractors/Loaders/Backhoe	3	0	0
	Rubber Tired Dozer	1	0.5	0.5
			Total	0.5
Site Preparation				
	Grader	1	0.5	0.5
	Tractor/Loader/Backhoe	1	0	0
	Scraper	1	1	1
				1.5
Grading				
	Tractor/Loader/Backhoe	2	0	0
	Grader	1	0.5	0.5
	Runner Tired Dozer	1	0.5	0.5
				1
Infrastructure				
	Crawler Tractors	1	0.5	0.5
	Excavator	1	0	0
	Rubber Tired Dozer	1	0.5	0.5
				1

Size of Maximum Daily Disturbed Construction Area: (Demolition+Site Prep + Grading + Infrastructure) 2.5 acres

Size of Maximum Daily Disturbed Operation Area: 2.5 acres (active projet area is approximately 2.5 acres)

Source Receptor Area: 19

Distance to Sensitive Receptor 75 meters for PM10 and PM2.5

Distance to Worker Receptor: 25 meters for NO2 and CO

Construction LST

	Distance = 25 meters		Distance = 50 meters		Distance = 100 meters		Distance = 75 meters	
Size (acres)	NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
2	131	993	18	6	30	10		
5	197	1804	37	11	49	16		
2.5	**142**	**1128**	21	7	33	11	**27**	**9**

Estimation of Operational LSTs

	Distance = 25 meters		Distance = 50 meters		Distance = 100 meters		Distance = 75 meters	
Size (acres)	NOx (lbs/day)	CO (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)	PM10 (lbs/day)	PM2.5 (lbs/day)
2	131	993	5	2	8	3		
5	197	1804	9	3	12	4		
2.5	**142**	**1128**	6	2	9	3	**7**	**3**

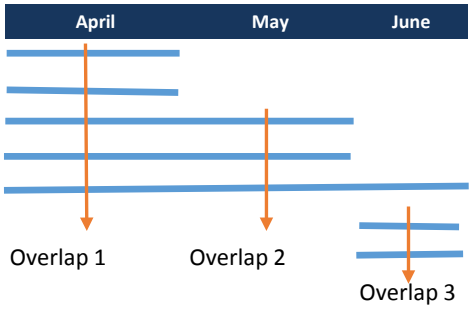
Great Scott Tree Care Project - Orange County

Construction Schedule

e 3: Construction Schedule

Activity	Start Date	End Date	Total Days
Demolition	1-Apr-24	30-Apr-24	22
Site Preparation	1-Apr-24	30-Apr-24	22
Grading	1-Apr-24	30-May-24	44
Infrastructure	1-Apr-24	31-May-24	45
Building Construction	1-Apr-24	30-Jun-24	44
Paving	2-Jun-24	30-Jun-24	20
Architectural Coating	2-Jun-24	30-Jun-24	20

Overlapping Activities



Great Scott Tree Care Project - Orange County

Estimation of Demolition Debris

Building Demolition

Single Family House

Length (ft)	Width (ft)	Stories	Vegetative Factor	Volume (cy)	
40	50	1	1.3	520	Note 1

Sheds

Length (ft)	Width (ft)	Height-ft	Volume (cy)	
20	20	8	39	Note 1

Length (ft)	Width (ft)	Height-ft	Volume (cy)	
20	15	8	29	Note 1

Pens

Length (ft)	Width (ft)	Height-ft	Volume (cy)	
60	70	8	411	Note 1

Total Volume	**999**	**cubic yards**	
Total Building Debris Weight	**500**	**tons**	Note 1

Tree Removal

Rule of Thumb: 15 trees,8 inches in diameter = 40 cy — Note 2

64 trees planned for removal = **160 cy** — Note 3

For Mixture of Trees, 5 cy = 1 ton **32 Tons** — Note 1

Total Tons for Demolition Removal	**532 tons**

Note 1: FEMA 2010. Debris Estimating Field Guide
Website: https://www.fema.gov/media-library-data/1558616150217-8ff03e353e675b00c08a84b5916fa397/fema_329_debris_estimating_field_guide_9-1-2010.pdf

Note 2: Dorchester County 2014. Dorchester County Debris Management Plan
Website: https://www.dorchestercountysc.gov/home/showdocument?id=8604

Note 3: Project Description

Great Scott Tree Care Project - Orange County

CalEEMod Construction Emission Summary

	Maximum Daily Emissions (pounds/day)									
2022	**ROG**	**NOx**	**CO**	**SOx**	**PM10Exh**	**PM10Fug**	**PM10Total**	**PM2.5Exh**	**PM2.5 Fug**	**PM2.5Total**
Demolition										
Onsite	1.6	15.6	16.0	0.0	0.7	0.3	1.0	0.6	0.1	0.7
Offsite	0.1	0.6	1.0	0.0	0.0	0.3	0.3	0.0	0.1	0.1
Total	1.7	16.2	17.0	0.0	0.7	0.6	1.3	0.6	0.2	0.8
Site Prep										
Onsite	1.3	12.7	11.4	0.0	0.6	0.0	0.6	0.5	0.0	0.5
Offsite	0.0	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total	1.3	12.7	11.9	0.0	0.6	0.1	0.7	0.5	0.0	0.5
Grading										
Onsite	1.7	15.9	15.4	0.0	0.7	0.0	0.7	0.7	0.0	0.7
Offsite	0.0	0.0	0.6	0.0	0.0	0.2	0.2	0.0	0.1	0.1
Total	1.7	15.9	16.0	0.0	0.7	0.2	0.9	0.7	0.1	0.8
Infrastructure										
Onsite	0.7	5.5	6.7	0.0	0.3	0.0	0.3	0.3	0.0	0.3
Offsite	0.0	0.0	0.5	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total	0.7	5.5	7.2	0.0	0.3	0.1	0.4	0.3	0.0	0.3
Building Construction										
Onsite	0.8	5.8	7.0	0.0	0.2	0.0	0.2	0.2	0.0	0.2
Offsite	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.8	5.8	7.2	0.0	0.2	0.0	0.2	0.2	0.0	0.2
Paving										
Onsite	0.8	6.4	6.3	0.0	0.3	0.0	0.3	0.3	0.0	0.3
Offsite	0.1	0.1	0.9	0.0	0.0	0.2	0.2	0.0	0.1	0.1
Total	0.9	6.5	7.2	0.0	0.3	0.2	0.5	0.3	0.1	0.4
Architectural Coating										
Onsite	4.1	0.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Offsite	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	4.1	0.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Onsite: Overlap 1: Demo + Site Prep +Grading + Infrastructure + Buildng Construction	6.1	55.5	56.5	0.0	2.5	0.3	2.8	2.3	0.1	2.4
Max Onsite: Overlap 2: Grading + Infrastructure + Building Construction	3.2	27.2	29.1	0.0	1.2	0.0	1.2	1.2	0.0	1.2
Max Onsite: Overlap 3: Building Construction + Paving + Architectural Coating	5.7	13.1	14.5	0.0	0.5	0.0	0.5	0.5	0.0	0.5
Max Onsite	**6.1**	**55.5**	**56.5**	**0.0**	**2.5**	**0.3**	**2.8**	**2.3**	**0.1**	**2.4**
Max Total Overlap 1: Demo + Site Prep +Grading + Infrastructure + Buildng Construction	6.2	56.1	59.3	0.0	2.5	1.0	3.5	2.3	0.3	2.6
Max Total: Overlap 2: Grading + Infrastructure + Building Construction	3.2	27.2	30.4	0.0	1.2	0.3	1.5	1.2	0.1	1.3
Max Total: Overlap 3: Bilding Construction + Paving + Architectural Coating	5.8	13.2	15.6	0.0	0.5	0.2	0.7	0.5	0.1	0.6
Max Total (Onsite + Offsite)	**6.2**	**56.1**	**59.3**	**0.0**	**2.5**	**1.0**	**3.5**	**2.3**	**0.3**	**2.6**

Regional Threshold (pounds/day)	**75**	**100**	**550**	**150**		**150**	**55**
Exceeds Threshold (poundss/day)	**No**	**No**	**No**	**No**		**No**	**No**
Local Threshold (pounds/day)		**142.0**	**1128.2**			**27.2**	**8.9**
Exceeds Threshold (pounds/day)		**NO**	**NO**			**NO**	**NO**

Note: emissions shown as 0.0 pounds/day indicate emissions less than0.1 pounds/day

Regional Summary (pounds/day)

	ROG	NOx	CO	SOx	PM10	PM2.5
Demolition	1.7	16.2	17.0	0.0	1.3	0.8
Site Preparation	1.3	12.7	11.9	0.0	0.7	0.5
Grading	1.7	15.9	16.0	0.0	0.9	0.8
Infrastructure	0.7	5.5	7.2	0.0	0.4	0.3
Building Construction	0.8	5.8	7.2	0.0	0.2	0.2
Paving	0.9	6.5	7.2	0.0	0.5	0.4
Architectural Coating	4.1	0.9	1.2	0.0	0.0	0.0
Max Total Daily Emissions	6.2	56.1	59.3	0.0	3.5	1.0

Onsite Local Emissions (pounds/day)

	NOx	CO	PM10	PM2.5
Demolition	15.6	16.0	1.0	0.7
Site Preparation	12.7	11.4	0.6	0.5
Grading	15.9	15.4	0.7	0.7
Infrastructure	5.5	6.7	0.3	0.3
Building Construction	5.8	7.0	0.2	0.2
Paving	6.4	6.3	0.3	0.3
Architectural Coating	0.9	1.2	0.0	0.0
Max Onsite Local Daily Emissions	55.5	56.5	2.8	2.4

Great Scott Tree Care Project - Orange County

Construction Equipment Fuel Usage

Equipment Type	Equipment (Diesel)	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)
Demoliton	Tractors/Loaders/Backhoes	3	8	84	0.37	22	16,410	0.056500	927
	Rubber Tired Dozers	1	8	367	0.4	22	25,837	0.044800	1,157
	Concrete/Industrial Saws	1	8	33	0.73	22	4,240	0.0419	178
Site Preparation	Graders	1	8	148	0.41	22	10,680	0.054000	577
	Tractors/Loaders/Backhoes	1	7	84	0.37	22	4,786	0.056500	270
	Scrapers	1	8	423	0.48	22	35,735	0.047300	1,690
Grading	Graders	1	8	148	0.41	44	21,359	0.054000	1,153
	Tractors/Loaders/Backhoes	2	7	84	0.37	44	19,145	0.044800	858
	Rubber Tired Dozers	1	8	367	0.4	44	51,674	0.056500	2,920
Infrastructure	Crawler Tractors	1	8	87	0.43	45	13,468	0.058400	787
	Excavators	1	8	36	0.38	45	4,925	0.056100	276
	Rubber Tired Loaders	1	8	150	0.36	45	19,440	0.050100	974
Building Construction	Generator Sets	1	8	14	0.74	44	3,647	0.056500	206
	Tractors/Loaders/Backhoes	1	6	84	0.37	44	8,205	0.045000	369
	Welders	3	8	46	0.45	44	21,859	0.045000	984
Paving	Tractors/Loaders/Backhoes	1	8	84	0.37	20	4,973	0.041900	208
	Pavers	1	8	81	0.42	20	5,443	0.056500	308
	Paving Equipment	1	8	89	0.36	20	5,126	0.059600	306
	Rollers	2	8	36	0.38	20	4,378	0.056500	247
	Cement and Mortar Mixers	1	8	10	0.56	20	896	0.058000	52
Architectural Coating	Air Compressor	1	6	37	0.48	20	2131.2	0.045000	96
								Total	14543

Fuel Consumption rates derived from the ARB OFFROAD2021

Great Scott Tree Care Project - Orange County

Fuel Consumption from Construction Vehicles (Derived from the ARB EMFAC2021 Mobile Source Emission Model)

Emission Factors

Region (County)	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT (miles/day)	Fuel Consumption (1000 gallons/day)	Fuel Rate (miles/gallon)
SoCAB	2024	LHDT1	Aggregated	Aggregated	DSL	4521713	220.2	20.5
SoCAB	2024	MHDT-T6	Aggregated	Aggregated	DSL	5002001	560.4	8.9
SoCAB	2024	HHDT - T7	Agregated	Aggregatged	DSL	13368764	2208.3	6.1
							Average (50%/50%)	**7.5**
SoCAB	2024	LDA	Aggregated	Aggregated	GAS	218661478.4	7460.397566	29.3
SoCAB	2024	LDT1	Aggregated	Aggregated	GAS	18293108.56	749.2484986	24.4
SoCAB	2024	LDT2	Aggregated	Aggregated	GAS	105566684.3	4409.351871	23.9
						Average	**(50%/25%/25%)**	**27**

Vehicle Assumptions (CalEEMod)
Haiul Trucks
HHDT - T7 (Heavy heavy duty haul trucks)
MHDT-T6 (medium heavy duty haul truck)
Vendor trucks assu ed to be 50% HHDT-T7 and MHDT-T6)
LDA (light duty automobile for worker vehicles)
LDT1 (light duty truck 1 for wortker vehicles)
LDT2 (light duty truck 2 for worker vehicles)
Worker vehicles represented as 50% LDT, 25% LDT1, and 25% LDT2

Construction Vehicle Use **(Derived from the CalEEMod model output)**

Fuel Consumption for Haul Trucks

Construction Activity	No Haul Truck Trips/day	Trip Length	Duration (Days)	VMT (miles)	DSL Fuel (gallons)
Demolition	6	20	22	2640	436
Site Preparation	0	20	22	0	0
Grading	3	20	44	2640	436
Infrastructure	0	20	45	0	0
Building Construction	0	20	44	0	0
Paving -	0	20	20	0	0
Architectural Coating	0	20	20	0	0
Total	**9**			**5280**	**872**

Fuel Consumption for Vendor Trucks

Construction Activity	No Vendor Truck Trips/day	Duration (days)	Trip Length (miles)	VMT (miles)	Fuel	Fuel Rate (miles/gallon)	DSL Fuel (gallons)
Demolition	0	22	10.2	0	DSL	7.5	0
Site Preparation	0	22	10.2	0	DSL	7.5	0
Grading	0	44	10.2	0	DSL	7.5	0
Infrastructure	0	45	10.2	0	DSL	7.5	0
Building Construction	1	44	10.2	448.8	DSL	7.5	60
Paving	0	20	10.2	0	DSL	7.5	0
Architectural Coating	0	20	10.2	0	DSL	7.5	0
Total				**448.8**			**60**

Fuel Consumption for Worker Vehicles

Activity	No Worker Vehicles Trips/day	Duration (days)	Trip Length (miles)	VMT (miles)	Fuel	Fuel Rate (miles/gallon)	Gas Fuel (gallons)
Demolition	13	22	18.5	5291	GAS	27	198
Site Preparation	8	22	18.5	3256	GAS	27	122
Grading	10	44	18.5	8140	GAS	27	304
Inffrastructure	8	45	18.5	6660	GAS	27	249
Building Construction	2	44	18.5	1628	GAS	27	61
Paving	15	20	18.5	5550	GAS	27	208
Architectural Coating	2	20	18.5	740	GAS	27	28
Total -DSL				**31265**			**1169**

Summary	Gallons
Total -DSL	932
Total - GAS	1169
	2101

Great Scott Tree Care Project - Orange County

Daily Vehicle Trips

Passenger Vehicles	
Office Employees	10
Field Employees	58
Total	68
Trucks	
Supervisors	16
Feld Equipment/Trucks	58
Total	74
Grand Total	142

Fleet Mix

		Trip Mix	Daily Trips
Office and Field Employees	LDA	100%	68
Supervisor Trucks	LDT2	22%	16
Field/Equipoment Trucks	MHDT	78%	58
			142

Vehicle Trip Rate

Building Size:	5899	Sq-ft	
			Trip Rate
Office and Field Employees		LDA	11.52738
Trucks		LHD1/MHI	12.544

Great Scott Tree Care Project - Orange County

Estimation of Operational Vehicle Fuel Use

Annual Operational VMT 1306781 miles per year from CalEEMod

Operational Fleet Mix

	Vehicle Class	Daily Trips	Trips/year	Miles/trip	Miles/year	Miles/gallon	Gallons/year
Office and Field Employees	LDA - GAS	68	24820	20	496400	29.3	16936
Supervisor Trucks	LHDT1 - DSL	16	5840	30	175200	20.5	8532
Field/Equipment Trucks	MHDT - DSL	58	21170	30	635100	8.9	71154
		142	51835		1306781		

VMT Total-GAS	496,400	miles/year
VMT Total-DSL	810,300	miles/year
	1,306,781	miles/year
Fuel - GAS	16,936	gallons/year
Fuel - DSL	79,686	gallons/year

Note 1: Average fuel rate taken from the Construction Vehicle Fuel Use Worksheet

Great Scott Tree Care Project - Orange County Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Great Scott Tree Care Project - Orange County
Construction Start Date	4/1/2024
Operational Year	2024
Lead Agency	City of Lake Forest
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	4.20
Location	33.661003125020926, -117.67465565348397
County	Orange
City	Lake Forest
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	6021
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.19

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

General Light Industry	5.90	1000sqft	0.14	5,899	7,500	—	—	—
Other Non-Asphalt Surfaces	80.1	1000sqft	1.84	0.00	0.00	—	—	—
Parking Lot	7.06	1000sqft	0.16	0.00	0.00	—	—	—
User Defined Industrial	5.90	User Defined Unit	0.00	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.38	6.17	56.2	59.2	0.10	2.53	0.97	3.50	2.33	0.21	2.53	—	10,601	10,601	0.43	0.17	3.20	10,666
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.74	0.83	5.46	5.95	0.01	0.25	0.09	0.34	0.23	0.02	0.25	—	1,010	1,010	0.04	0.01	0.14	1,015
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	0.15	1.00	1.09	< 0.005	0.05	0.02	0.06	0.04	< 0.005	0.05	—	167	167	0.01	< 0.005	0.02	168
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—

Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0	100	550	150	—	—	150	—	—	55.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	7.38	6.17	56.2	59.2	0.10	2.53	0.97	3.50	2.33	0.21	2.53	—	10,601	10,601	0.43	0.17	3.20	10,666
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.74	0.83	5.46	5.95	0.01	0.25	0.09	0.34	0.23	0.02	0.25	—	1,010	1,010	0.04	0.01	0.14	1,015
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.13	0.15	1.00	1.09	< 0.005	0.05	0.02	0.06	0.04	< 0.005	0.05	—	167	167	0.01	< 0.005	0.02	168

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	2.78	2.11	20.8	28.6	0.10	0.81	2.96	3.77	0.75	0.78	1.53	6.56	11,133	11,139	1.31	1.06	24.1	11,512
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.73	2.06	21.1	28.0	0.10	0.81	2.96	3.77	0.75	0.78	1.53	6.56	11,089	11,095	1.31	1.06	2.12	11,447
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.21	1.63	17.5	22.0	0.09	0.61	2.95	3.56	0.56	0.78	1.34	6.56	10,102	10,109	1.27	1.05	11.3	10,466
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.40	0.30	3.20	4.01	0.02	0.11	0.54	0.65	0.10	0.14	0.25	1.09	1,673	1,674	0.21	0.17	1.87	1,733
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	56.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	55.0	55.0	550	150	—	—	150	—	—	56.0	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,000
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.81	0.30	7.87	6.45	0.07	0.10	2.96	3.06	0.10	0.78	0.88	—	7,510	7,510	0.49	1.02	22.6	7,851
Area	0.05	0.20	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.06	1.06	< 0.005	< 0.005	—	1.06
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	141	141	0.01	< 0.005	—	141
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Waste	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Off-Road	1.92	1.61	12.9	21.8	0.03	0.70	—	0.70	0.65	—	0.65	—	3,471	3,471	0.14	0.03	—	3,483
Total	2.78	2.11	20.8	28.6	0.10	0.81	2.96	3.77	0.75	0.78	1.53	6.56	11,133	11,139	1.31	1.06	24.1	11,512
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.80	0.29	8.18	6.08	0.07	0.10	2.96	3.06	0.10	0.78	0.88	—	7,467	7,467	0.50	1.03	0.59	7,786
Area	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	141	141	0.01	< 0.005	—	141
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Waste	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Off-Road	1.92	1.61	12.9	21.8	0.03	0.70	—	0.70	0.65	—	0.65	—	3,471	3,471	0.14	0.03	—	3,483
Total	2.73	2.06	21.1	28.0	0.10	0.81	2.96	3.77	0.75	0.78	1.53	6.56	11,089	11,095	1.31	1.06	2.12	11,447
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.81	0.29	8.29	6.18	0.07	0.10	2.95	3.05	0.10	0.78	0.88	—	7,479	7,479	0.50	1.03	9.75	7,807
Area	0.03	0.18	< 0.005	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.72	0.72	< 0.005	< 0.005	—	0.73
Energy	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	141	141	0.01	< 0.005	—	141
Water	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6

Waste	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Off-Road	1.37	1.15	9.18	15.5	0.02	0.50	—	0.50	0.46	—	0.46	—	2,473	2,473	0.10	0.02	—	2,481
Total	2.21	1.63	17.5	22.0	0.09	0.61	2.95	3.56	0.56	0.78	1.34	6.56	10,102	10,109	1.27	1.05	11.3	10,466
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.15	0.05	1.51	1.13	0.01	0.02	0.54	0.56	0.02	0.14	0.16	—	1,238	1,238	0.08	0.17	1.61	1,292
Area	0.01	0.03	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	23.3	23.3	< 0.005	< 0.005	—	23.4
Water	—	—	—	—	—	—	—	—	—	—	—	0.43	1.55	1.98	0.04	< 0.005	—	3.42
Waste	—	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.07	0.00	—	2.28
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
Off-Road	0.25	0.21	1.68	2.84	< 0.005	0.09	—	0.09	0.08	—	0.08	—	409	409	0.02	< 0.005	—	411
Total	0.40	0.30	3.20	4.01	0.02	0.11	0.54	0.65	0.10	0.14	0.25	1.09	1,673	1,674	0.21	0.17	1.87	1,733

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.92	1.61	15.6	16.0	0.02	0.67	—	0.67	0.62	—	0.62	—	2,494	2,494	0.10	0.02	—	2,502
Demolition	—	—	—	—	—	—	0.33	0.33	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.94	0.97	< 0.005	0.04	—	0.04	0.04	—	0.04	—	150	150	0.01	< 0.005	—	151
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.17	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.9	24.9	< 0.005	< 0.005	—	25.0
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.05	0.75	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	169	169	< 0.005	0.01	0.69	172
Vendor	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	0.00
Hauling	0.04	0.01	0.53	0.23	< 0.005	0.01	0.11	0.11	0.01	0.03	0.04	—	429	429	0.03	0.07	0.90	451
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	9.85	9.85	< 0.005	< 0.005	0.02	9.98
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.9	25.9	< 0.005	< 0.005	0.02	27.2

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.63	1.63	< 0.005	< 0.005	< 0.005	1.65
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.28	4.28	< 0.005	< 0.005	< 0.005	4.50

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.56	1.31	12.7	11.4	0.03	0.55	—	0.55	0.51	—	0.51	—	2,716	2,716	0.11	0.02	—	2,725
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.76	0.69	< 0.005	0.03	—	0.03	0.03	—	0.03	—	164	164	0.01	< 0.005	—	164
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.14	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27.1	27.1	< 0.005	< 0.005	—	27.2
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.42	103
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.91	5.91	< 0.005	< 0.005	0.01	5.99
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.98	0.98	< 0.005	< 0.005	< 0.005	0.99
Vendor	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	0.00
Hauling	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	0.00

3.5. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.96	1.65	15.9	15.4	0.02	0.74	—	0.74	0.68	—	0.68	—	2,454	2,454	0.10	0.02	—	2,462
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.91	1.86	< 0.005	0.09	—	0.09	0.08	—	0.08	—	296	296	0.01	< 0.005	—	297
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.35	0.34	< 0.005	0.02	—	0.02	0.02	—	0.02	—	49.0	49.0	< 0.005	< 0.005	—	49.1
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.04	0.60	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	136	136	< 0.005	< 0.005	0.56	138
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	15.8	15.8	< 0.005	< 0.005	0.03	16.0
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.61	2.61	< 0.005	< 0.005	< 0.005	2.64
Vendor	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	0.00

Hauling	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	0.00

3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.93	0.77	5.84	6.95	0.01	0.22	—	0.22	0.20	—	0.20	—	944	944	0.04	0.01	—	947
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.70	0.84	< 0.005	0.03	—	0.03	0.02	—	0.02	—	114	114	< 0.005	< 0.005	—	114
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.8	18.8	< 0.005	< 0.005	—	18.9
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	33.6	33.6	< 0.005	< 0.005	0.14	34.1

Vendor	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.3	31.3	< 0.005	< 0.005	0.08	32.7
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.90	3.90	< 0.005	< 0.005	0.01	3.96
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.78	3.78	< 0.005	< 0.005	< 0.005	3.94
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.65	0.65	< 0.005	< 0.005	< 0.005	0.66
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.63	0.63	< 0.005	< 0.005	< 0.005	0.65
Hauling	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	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.89	0.75	6.44	8.26	0.01	0.31	—	0.31	0.29	—	0.29	—	1,244	1,244	0.05	0.01	—	1,248
Paving	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.35	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	68.2	68.2	< 0.005	< 0.005	—	68.4
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.3
Paving	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.90	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	203	203	< 0.005	0.01	0.83	206
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.7	10.7	< 0.005	< 0.005	0.02	10.9
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.78	1.78	< 0.005	< 0.005	< 0.005	1.80
Vendor	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	0.00

Hauling	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	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	3.95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.32	7.32	< 0.005	< 0.005	—	7.34
Architectural Coatings	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.21	1.21	< 0.005	< 0.005	—	1.22

Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.72	6.72	< 0.005	< 0.005	0.03	6.82
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.35	0.35	< 0.005	< 0.005	< 0.005	0.36
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.06
Vendor	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	0.00
Hauling	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	0.00

3.13. Infrastructure (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.50	6.66	0.01	0.34	—	0.34	0.31	—	0.31	—	992	992	0.04	0.01	—	995
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.68	0.82	< 0.005	0.04	—	0.04	0.04	—	0.04	—	122	122	< 0.005	< 0.005	—	123
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.12	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	20.2	20.2	< 0.005	< 0.005	—	20.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.45	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	102	102	< 0.005	< 0.005	0.42	103
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.1	12.1	< 0.005	< 0.005	0.02	12.3
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.00	2.00	< 0.005	< 0.005	< 0.005	2.03
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.16	0.14	0.12	2.66	0.01	< 0.005	0.95	0.95	< 0.005	0.24	0.24	—	814	814	0.01	0.02	3.81	822
Other Non-Asphalt Surfaces	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	0.00
Parking Lot	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	0.00
User Defined Industrial	0.65	0.16	7.75	3.79	0.06	0.10	2.01	2.11	0.09	0.54	0.64	—	6,697	6,697	0.48	1.01	18.8	7,028
Total	0.81	0.30	7.87	6.45	0.07	0.10	2.96	3.06	0.10	0.78	0.88	—	7,510	7,510	0.49	1.02	22.6	7,851

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.15	0.14	0.13	2.29	0.01	< 0.005	0.95	0.95	< 0.005	0.24	0.24	—	770	770	0.02	0.02	0.10	775
Other Non-Asphalt Surfaces	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	0.00
Parking Lot	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	0.00
User Defined Industrial	0.65	0.15	8.05	3.79	0.06	0.10	2.01	2.11	0.10	0.54	0.64	—	6,698	6,698	0.48	1.01	0.49	7,011
Total	0.80	0.29	8.18	6.08	0.07	0.10	2.96	3.06	0.10	0.78	0.88	—	7,467	7,467	0.50	1.03	0.59	7,786
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.03	0.03	0.02	0.44	< 0.005	< 0.005	0.17	0.17	< 0.005	0.04	0.04	—	129	129	< 0.005	< 0.005	0.27	131
Other Non-Asphalt Surfaces	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	0.00
Parking Lot	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	0.00
User Defined Industrial	0.12	0.03	1.49	0.69	0.01	0.02	0.37	0.38	0.02	0.10	0.12	—	1,109	1,109	0.08	0.17	1.34	1,162
Total	0.15	0.05	1.51	1.13	0.01	0.02	0.54	0.56	0.02	0.14	0.16	—	1,238	1,238	0.08	0.17	1.61	1,292

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	54.1	54.1	0.01	< 0.005	—	54.4
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5.90	5.90	< 0.005	< 0.005	—	5.94
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	60.0	60.0	0.01	< 0.005	—	60.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	54.1	54.1	0.01	< 0.005	—	54.4
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	5.90	5.90	< 0.005	< 0.005	—	5.94
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	60.0	60.0	0.01	< 0.005	—	60.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	8.95	8.95	< 0.005	< 0.005	—	9.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.98	0.98	< 0.005	< 0.005	—	0.98
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.93	9.93	< 0.005	< 0.005	—	9.98

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.9	80.9	0.01	< 0.005	—	81.1
Other Non-Asphalt Surfaces	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
Parking Lot	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
User Defined Industrial	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
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.9	80.9	0.01	< 0.005	—	81.1

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.9	80.9	0.01	< 0.005	—	81.1
Other Non-Asphalt Surfaces	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
Parking Lot	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
User Defined Industrial	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
Total	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	80.9	80.9	0.01	< 0.005	—	81.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.4	13.4	< 0.005	< 0.005	—	13.4
Other Non-Asphalt Surfaces	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
Parking Lot	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
User Defined Industrial	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
Total	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.4	13.4	< 0.005	< 0.005	—	13.4

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.05	0.04	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.06	1.06	< 0.005	< 0.005	—	1.06
Total	0.05	0.20	< 0.005	0.26	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.06	1.06	< 0.005	< 0.005	—	1.06
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.15	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12

Total	0.01	0.03	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2.61	9.36	12.0	0.27	0.01	—	20.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.43	1.55	1.98	0.04	< 0.005	—	3.42
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.43	1.55	1.98	0.04	< 0.005	—	3.42

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3.94	0.00	3.94	0.39	0.00	—	13.8
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.07	0.00	—	2.28
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.65	0.00	0.65	0.07	0.00	—	2.28

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.54	1.54
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.25	0.25

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rubber Tired Loaders	0.14	0.12	0.91	1.57	< 0.005	0.05	—	0.05	0.04	—	0.04	—	251	251	0.01	< 0.005	—	251
Other Material Handling Equipment	1.78	1.50	12.0	20.3	0.03	0.65	—	0.65	0.60	—	0.60	—	3,220	3,220	0.13	0.03	—	3,231
Total	1.92	1.61	12.9	21.8	0.03	0.70	—	0.70	0.65	—	0.65	—	3,471	3,471	0.14	0.03	—	3,483
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rubber Tired Loaders	0.14	0.12	0.91	1.57	< 0.005	0.05	—	0.05	0.04	—	0.04	—	251	251	0.01	< 0.005	—	251
Other Material Handling Equipment	1.78	1.50	12.0	20.3	0.03	0.65	—	0.65	0.60	—	0.60	—	3,220	3,220	0.13	0.03	—	3,231
Total	1.92	1.61	12.9	21.8	0.03	0.70	—	0.70	0.65	—	0.65	—	3,471	3,471	0.14	0.03	—	3,483
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rubber Tired Loaders	0.02	0.02	0.12	0.20	< 0.005	0.01	—	0.01	0.01	—	0.01	—	29.6	29.6	< 0.005	< 0.005	—	29.7
Other Material Handling Equipment	0.23	0.19	1.56	2.63	< 0.005	0.08	—	0.08	0.08	—	0.08	—	380	380	0.02	< 0.005	—	381
Total	0.25	0.21	1.68	2.84	< 0.005	0.09	—	0.09	0.08	—	0.08	—	409	409	0.02	< 0.005	—	411

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	4/1/2024	4/30/2024	5.00	22.0	—
Site Preparation	Site Preparation	4/1/2024	4/30/2024	5.00	22.0	—
Grading	Grading	4/1/2024	5/30/2024	5.00	44.0	—
Building Construction	Building Construction	4/1/2024	5/30/2024	5.00	44.0	—
Paving	Paving	6/2/2024	6/30/2024	5.00	20.0	—
Architectural Coating	Architectural Coating	6/2/2024	6/30/2024	5.00	20.0	—
Infrastructure	Trenching	4/1/2024	5/31/2024	5.00	45.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building Construction	Welders	Diesel	Average	3.00	8.00	46.0	0.45
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Infrastructure	Crawler Tractors	Diesel	Average	1.00	8.00	87.0	0.43
Infrastructure	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Infrastructure	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	12.5	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	6.05	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	10.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	2.48	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	0.97	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.50	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT
Infrastructure	—	—	—	—
Infrastructure	Worker	7.50	18.5	LDA,LDT1,LDT2
Infrastructure	Vendor	—	10.2	HHDT,MHDT
Infrastructure	Hauling	0.00	20.0	HHDT
Infrastructure	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	8,849	2,950	5,227

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	532	—
Paving	0.00	0.00	0.00	0.00	2.00

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%
Other Non-Asphalt Surfaces	1.84	0%
Parking Lot	0.16	100%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	349	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	68.0	68.0	68.0	24,826	1,360	1,360	1,360	496,513
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	74.0	74.0	74.0	27,009	2,220	2,220	2,220	810,268

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	8,849	2,950	5,227

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Light Industry	56,588	349	0.0330	0.0040	252,489
Other Non-Asphalt Surfaces	0.00	349	0.0330	0.0040	0.00
Parking Lot	6,182	349	0.0330	0.0040	0.00
User Defined Industrial	0.00	349	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	1,364,144	97,203
Other Non-Asphalt Surfaces	0.00	0.00
Parking Lot	0.00	0.00
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	7.31	—
Other Non-Asphalt Surfaces	0.00	—
Parking Lot	0.00	—
User Defined Industrial	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Rubber Tired Loaders	Diesel	Average	1.00	4.00	150	0.36
Other Material Handling Equipment	Diesel	Average	10.0	4.00	173	0.40

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	9.15	annual days of extreme heat
Extreme Precipitation	4.15	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	15.9	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	0	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	0	0	0	N/A
Wildfire	0	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A

Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	67.9
AQ-PM	44.3
AQ-DPM	48.7
Drinking Water	47.3
Lead Risk Housing	16.5
Pesticides	65.6
Toxic Releases	60.7
Traffic	34.2
Effect Indicators	—

CleanUp Sites	18.7
Groundwater	0.00
Haz Waste Facilities/Generators	75.2
Impaired Water Bodies	77.3
Solid Waste	54.8
Sensitive Population	—
Asthma	17.7
Cardio-vascular	52.2
Low Birth Weights	54.3
Socioeconomic Factor Indicators	—
Education	12.6
Housing	56.0
Linguistic	12.3
Poverty	23.7
Unemployment	10.7

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	83.35685872
Employed	99.57654305
Median HI	75.51648916
Education	—
Bachelor's or higher	76.02977031
High school enrollment	100
Preschool enrollment	46.65725651

Transportation	—
Auto Access	52.9449506
Active commuting	13.56345438
Social	—
2-parent households	35.57038368
Voting	39.99743359
Neighborhood	—
Alcohol availability	82.61260105
Park access	81.35506224
Retail density	55.72950083
Supermarket access	30.41190812
Tree canopy	77.06916463
Housing	—
Homeownership	39.57397665
Housing habitability	68.7925061
Low-inc homeowner severe housing cost burden	72.33414603
Low-inc renter severe housing cost burden	73.24522007
Uncrowded housing	61.41408957
Health Outcomes	—
Insured adults	88.86179905
Arthritis	90.1
Asthma ER Admissions	78.2
High Blood Pressure	90.7
Cancer (excluding skin)	57.8
Asthma	72.9
Coronary Heart Disease	93.8
Chronic Obstructive Pulmonary Disease	88.0

Diagnosed Diabetes	92.6
Life Expectancy at Birth	89.2
Cognitively Disabled	87.2
Physically Disabled	55.6
Heart Attack ER Admissions	58.0
Mental Health Not Good	73.6
Chronic Kidney Disease	93.4
Obesity	82.4
Pedestrian Injuries	19.6
Physical Health Not Good	87.1
Stroke	93.8
Health Risk Behaviors	—
Binge Drinking	4.8
Current Smoker	70.9
No Leisure Time for Physical Activity	82.7
Climate Change Exposures	—
Wildfire Risk	1.1
SLR Inundation Area	0.0
Children	68.4
Elderly	73.1
English Speaking	56.3
Foreign-born	41.2
Outdoor Workers	68.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	74.8
Traffic Density	29.6
Traffic Access	23.0

Other Indices	—
Hardship	11.4
Other Decision Support	—
2016 Voting	68.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	36.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction dates provided by the Applicant
Construction: Off-Road Equipment	Construction equipment inventory derived from the CalEEMod default values except for the building construction where no crane will be required and the addition of an Infrastructure Construction Phase

Construction: Dust From Material Movement	Soil import as per the applicant
Operations: Vehicle Data	Fleet mix and trip lengths as per the project traffic memorandum
Operations: Fleet Mix	Fleet MIx as per Project Traffic Memorandum
Operations: Off-Road Equipment	Future operations may require the operation of a loader for onsite material handing !0 filed operational trucks will be equipped with an Apache Drum Chipper for offsite operations