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Memo

To: Ryan Murphy, Senior Planner, City of Redlands

CC: Cameron Hile and Bob Prasse, MIG

From: William Deeman and Chris Dugan

Date: July 7, 2023

SUBJECT: Greenhouse Gas and Energy Analysis for Madera at Citrus Trail Project, Redlands, CA

MIG, Inc. (MIG) has prepared this memorandum at the request of the City of Redlands. This memorandum estimates the potential greenhouse gas (GHG) emissions and energy consumption levels for the proposed Madera at Citrus Trail Project (proposed Project) and evaluates Project emissions against applicable South Coast Air Quality Management District (SCAQMD)-recommended California Environmental Quality Act (CEQA) significance thresholds. As explained in this memorandum, the proposed Project does not have the potential to result in emissions that exceed SCAQMD thresholds or result in wasteful, inefficient, or unnecessary energy consumption. MIG has included recommended mitigation measures to align the Project's design and GHG emissions with statewide GHG emission reduction goals.

PROJECT DESCRIPTION

The proposed Project involves the construction of 103 single family residential buildings on a parcel of undeveloped land in the eastern part of Redlands, California.

The approximately 9.01-acre Project site is located at the northwest corner of Colton Avenue and Wabash Avenue. The proposed Project would include 216,567 square feet of gross building space, 65,470 square feet of landscaped space for private yards and for a central common area, and 20,100 square feet of impervious surfaces such as walkways, drive aisles, driveways, and parking spaces. Each dwelling unit would range from approximately 1,544 to 1,858 square feet. The site would contain 206 garage stalls and 63 guest stalls. The site would be internally connected by A Street, which would run north to south, and by B Street and C Street, which would run east to west. Refer to Attachment 1 for the proposed Project site plan.

The Project site is bound on the north and west by single-family residential uses, on the east by Wabash Avenue and on the south by Colton Avenue. Commercial uses are located across Wabash Avenue, approximately 90 feet east of the site and single-family residential uses are located across Colton Avenue, approximately 100 feet south of the site. The Project site is located approximately 0.4 miles south of State Route (SR) 38, approximately 1.4 miles northeast of Interstate 10 (I-10), and approximately 3.4 miles east of the I-210. The nearest airport, Redlands Municipal Airport, is approximately 1.3 miles north of the Project site and the nearest school, Crafton Elementary School, is located approximately 960 feet south of the Project site. The nearest park, Orange Blossom Trail head, is located approximately 80 feet south of the Project site, across Colton Avenue.

The proposed Project would involve site preparation, grading, new building construction, paving, and architectural coating. Construction activities are assumed to begin in early-2024 and last

approximately 14 months. The proposed Project's construction schedule and anticipated equipment usage is listed in Table 1.

Table 1: Madera at Citrus Trail Project Construction Activities

Construction Phase	Duration (Days)[(A)]	Typical Equipment Used[(B)]
Site Preparation	10	Dozer, Tractor/Loader/Backhoe
Grading	20	Excavator, Grader, Dozer, Backhoe
Building Construction	230	Crane, Forklift, Backhoe, Generator, Welder
Paving	20	Paver, Roller, Paving Equipment
Architectural Coating	20	Air Compressor

Source: Attachment 2.

(A) Days refers to total active workdays in the construction phase, not calendar days.

(B) The typical equipment list does not reflect all equipment that would be used during the construction phase. Not all equipment would operate eight hours per day each workday.

The proposed Project is anticipated to become operational in early 2025. Per the Traffic Impact Analysis prepared by Ganddini Group, the Project is anticipated to generate approximately 918 vehicle trips per day (Ganddini, 2023).

GHG ANALYSIS

Gases that trap heat in the atmosphere and affect regulation of the Earth's temperature are known as GHGs. GHG that contribute to climate change are a different type of pollutant than criteria or hazardous air pollutants because climate change is global in scale, both in terms of causes and effects. Some GHG are emitted to the atmosphere naturally by biological and geological processes such as evaporation (water vapor), aerobic respiration (carbon dioxide), and off-gassing from low oxygen environments such as swamps or exposed permafrost (methane); however, GHG emissions from human activities such as fuel combustion (e.g., carbon dioxide) and refrigerants use (e.g., hydrofluorocarbons) significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific GHGs – carbon dioxide, methane, nitrous oxide, and sulfur hexafluoride – and two groups of gases – hydrofluorocarbons and perfluorocarbons. These GHG are the primary GHG emitted into the atmosphere by human activities. The six most common GHG's are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs).

GHG emissions from human activities contribute to overall GHG concentrations in the atmosphere and the corresponding effects of global climate change (e.g., rising temperatures, increased severe weather events such as drought and flooding). GHGs can remain in the atmosphere long after they are emitted. The potential for a GHG to absorb and trap heat in the atmosphere is considered its global warming potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHGs by their GWP determines their carbon dioxide equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions (referred to as CO_2 equivalents, or CO_2e).

The proposed Project is located within the South Coast Air Basin, under the jurisdiction of the SCAQMD. In order to provide guidance to local lead agencies on determining the significance of

GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds (SCAQMD, 2010):

- Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.
- Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.
- Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:
    - 3,000 $MTCO_2e$ per year for all land use types; or
    - 3,500 $MTCO_2e$ per year for residential; 1,400 $MTCO_2e$ per year for commercial; 3,000 $MTCO_2e$ per year for mixed use projects.
- Tier 4 has three options for projects that exceed the screening values identified in Tier 3:
    - Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined); or
    - Option 2: Early implementation of applicable AB 32 Scoping Measures; or
    - Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 $MTCO_2e$/year/service population by 2020 and 4.1 $MTCO_2e$/year/service population by 2035. For project-level analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 $MTCO_2e$/year/service population for the 2020 and 2035 calendar years, respectively.

This analysis uses the SCAQMD's interim Tier 3 GHG threshold to evaluate the proposed Project's GHG emissions levels. This analysis also uses an 1,800 MTCO2e Project-specific goal for the purposes of helping evaluate the Project's GHG emissions levels.[1] The 1,800 $MTCO_2e$ per year Project-specific goal takes into account post 2020 GHG emissions targets the state is currently working towards.

GHG Emissions and Plan Consistency Analysis

The proposed project would generate GHG emission from both short-term construction and long-term operational activities. Construction activities would generate GHG emissions primarily

[1] The 1,800 $MTCO_2e$ per year goal was developed by taking the SCAQMD's Tier 3 threshold of 3,000 $MTCO_2e$ per year, which was the threshold to reduce emissions back to 1990 levels, and reducing it by 40 percent (3,000 MTCO2e/yr * (1 - 0.6) = 1,800 $MTCO_2e$/yr). This reduction is consistent with the GHG reductions required to meet GHG reductions required under SB 32 (to reduce GHG emissions to levels 40% below 1990 levels by 2030). This linear reduction approach oversimplifies the threshold development process. MIG is not proposing the City of Redlands adopt or use the 1,800 $MTCO_2e$ Project-specific goal as a CEQA GHG threshold for general use; rather, it is only intended for to provide additional context and information on the magnitude of the proposed Project's GHG emissions for this project.

from equipment fuel combustion as well as worker, vendor, and haul trips to and from the project site during site preparation, grading, building construction, paving, and architectural coating activities. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the project is decommissioned. The SCAQMD recommends amortizing construction GHG emissions over a 30-year period and including them with operational emissions estimates. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. Once operational, the proposed Project would generate GHG emissions from area, stationary, mobile, water/wastewater, refrigerant, and solid waste sources.

The proposed Project's potential GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod), Version (V.) 2022.1.1. Project emissions were generated using CalEEMod default assumptions and modified as necessary to reflect the following Project-specific context, information, and details:

- The type and length of construction phases for each site, as well as the equipment used in each phase and the number of worker trips per day, were modified per information provided by the Project Applicant.
- The default, weekday trip generation rate, average vehicle miles travelled (VMT) distance, and fleet mix were updated to reflect the information provided in the Traffic Impact Analysis (Ganddini Group 2023).

The proposed Project's total GHG emissions are shown in Table 2, *Project Greenhouse Gas Emissions*.

Table 2: Unmitigated Project Greenhouse Gas Emissions

GHG Emissions Source	**GHG Emissions ($MTCO_2e$ Per Year)**
Operations	
Mobile	1,119
Area	24
Energy	361
Water	15
Waste	31
Refrigerants	<1
Vegetation	4
Subtotal(A)	1,555
Construction	
Total Construction Emissions	423
Average Annual Emissions (30 Year Lifetime)(B)	14
Total Project Emissions(A)	1,569
SCAQMD Tier 3 Screening Threshold	**3,000**
SCAQMD Tier 3 Threshold Exceeded?	***No***
Project-specific 2030 GHG Emissions Goal	**1,800**
Project-specific GHG Emissions Goal Exceeded?	***No***

Source: MIG 2023 (See Attachment 2) and SCAQMD, 2010.
(A) Totals may not equal due to rounding.
(B) Construction emissions value has been averaged over a 30-year assumed project lifetime.

As shown in Table 2, the proposed Project's potential increase in GHG emissions would be below the SCAQMD's recommended GHG emissions thresholds. Furthermore, the proposed Project's GHG emissions would also be below an adjusted Project-specific GHG emissions goal of 1,800 $MTCO_2e$ per year, which takes into account post 2020 GHG emissions targets the state is currently working towards. The proposed Project, therefore, would not generate GHG emissions that exceed SCAQMD CEQA thresholds or otherwise result in a significant impact on the environment.

The proposed Project also would not conflict with or otherwise obstruct implementation of the California Air Resources Board (CARB) 2022 Climate Change Scoping Plan (2022 Scoping Plan) and Redland's Climate Action Plan (CAP). The 2022 Scoping Plan is CARB's primary document used to ensure statewide GHG reduction goals are met. The 2022 Scoping Plan's primary objective is to identify the measures needed to achieve the 2030 reduction target established under SB 32 and have the state achieve carbon neutrality by 2045, as codified by AB 1279. Appendix D to CARB's 2022 Scoping Plan Update identifies potential actions that could be undertaken at a local level to support the State's climate goals. In addition to providing guidance to local lead agencies on long-term climate planning (e.g., developing a qualified climate action plan), this appendix also provides a list of key GHG reducing attributes for residential and mixed-use developments, such as providing electric vehicle(EV) infrastructure, VMT reductions, and prohibiting natural gas infrastructure, that would support achievement of the State long-term GHG reduction goals. The proposed Project would not result in significant VMT impacts (see above) but is not proposing to prohibit natural gas hookups or install additional voluntary EV charging infrastructure beyond that required by the current CalGREEN code; however, the proposed Project's potential use of natural gas and installation of standard EV infrastructure would not conflict with the State's 2030 GHG reduction goal or impede achievement of carbon neutrality by 2045 because the proposed Project would be consistent with the City's CAP. The CAP, adopted in December 2017, presents the City's GHG inventories, identifies regulatory measures at the state-level that would have benefits at reducing local GHG emissions and quantifies those reductions, and identifies local measures the City would implement to achieve its identified GHG reduction targets for 2030 and 2035. As identified in Table 3-1 of the CAP, community-wide GHG emissions would need to reach an efficiency goal of 6.0 MTCO2e per capita per year and 5.0 MTCO2e per capita per year, to reach its 2030 and 2035 goals, respectively. As identified in Table 2, the proposed Project is estimated to generate approximately 1,569 MTCO2e upon its first year of operation in 2025. Based on an estimated Project population of 273 people, the proposed Project would have a GHG efficiency of approximately 5.75 MTCO2e per capita per year, which is below the City's 2030 GHG emissions reduction goal. The proposed Project, therefore, would be consistent with the Redlands CAP, which is intended to reduce community-wide GHG emissions consistent with State's GHG reduction goals, and the 2022 Scoping Plan's primary objective (achieve the State's 2030 GHG reduction target).

Conclusion

As described above, the proposed Project would not result in significant GHG emissions and would not conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing GHG emissions.

ENERGY ANALYSIS

The proposed Project consists of the construction and operation of 103 new single-family residential buildings. Construction activities associated with the proposed project would require the use of heavy-duty, off-road equipment and construction-related vehicle trips that would combust fuel, primarily diesel and gasoline. Heavy-duty construction equipment would be

required to comply with CARB's airborne toxic control measures, which restrict heavy-duty diesel vehicle idling to five minutes. It is estimated that construction activities would consume approximately 28,031 gallons of diesel fuel and 14 kilowatt-hours (kWh) of electricity to power on-site, off-road heavy-duty construction equipment. Worker, vendor, and haul truck trips during construction activities are anticipated to consume 5,017 gallons of gasoline, 5,279 gallons of diesel, and 943 kWh of electricity.

Once operational, the proposed Project would consume energy for vehicle trips and electricity usage. Operational vehicle trips are anticipated to consume approximately 105,772 gallons of gasoline, 26,881 gallons of diesel, and 38,286 kWh of electricity on an annual basis, upon its first year of operation. As estimated using CalEEMod, the proposed Project unmitigated residential buildings would consume approximately 784 megawatt-hours (mWh) of electricity and 3,223 million British Thermal Units (BTU) of natural gas per year. With mitigation measures GHG-1 and GHG-2 incorporated, the proposed Project mitigated residential buildings would consume approximately 1,767 mWh of electricity per year. Refer to Attachment 3 for detailed energy calculations.

Electricity, natural gas, and gasoline fuel consumption are energy sources necessary to operate and maintain the proposed Project in a safe manner. Lighting is essential for safety and security and natural gas consumption is needed for heating and other temperature-controlled activities.

The proposed Project is consistent with the City of Redlands CAP, as discussed above in the GHG Emissions and Plan Consistency Analysis section. The proposed Project would not conflict with or obstruct any other state or local plan adopted for the purposes of increasing the amount of renewable energy or energy efficiency because no other plans are in place in the Project area.

As discussed above, the proposed Project would be built to the latest CALGreen Code and would not conflict with or obstruct a state or local plan for renewable energy. For these reasons, the proposed project would not result in the wasteful, inefficient, or unnecessary use of energy resources.

CONCLUSION

As described in this memo, the proposed Project would not exceed any applicable SCAQMD-recommended CEQA threshold of significance and would be consistent with all applicable plans, policies and regulations adopted for the purposes of reducing GHG emissions. The proposed project also would not result in energy consumption impacts. The proposed project, therefore, would not result in substantial adverse GHG or energy-related effects on the environment.

REFERENCES

The following references were used to prepare this memorandum:

California Air Resources Board (CARB) 2022. *2022 Scoping Plan Update*. November 16, 2022. Web. Accessed April 3, 2023. <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp.pdf>

City of Redlands 2017. City of Redlands Climate Action Plan. December 2017. https://www.cityofredlands.org/post/planning-division-general-plan

Ganddini Group. 2023. Redlands Madera at Citrus Trail Traffic Impact Analysis. May 3, 2023.

Southern California Association of Governments (SCAG) 2020. Connect SoCal Current Context Demographic and Growth Forecast. September 3, 2020.

<https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf?1606001579>

South Coast Air Quality Management District (SCAQMD) 1993. Air Quality Analysis Handbook. Diamond Bar, CA. 1993. Available online at: <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>

_____2010. Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15. Diamond Bar, CA. September 28, 2010. Available online at: <http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-15/ghg-meeting-15-minutes.pdf>

_____2019. *South Coast AQMD Air Quality Significance Thresholds.* Diamond Bar, CA. April 2019. Available online at: <http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook>

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Attachment 1

Project Site Plan

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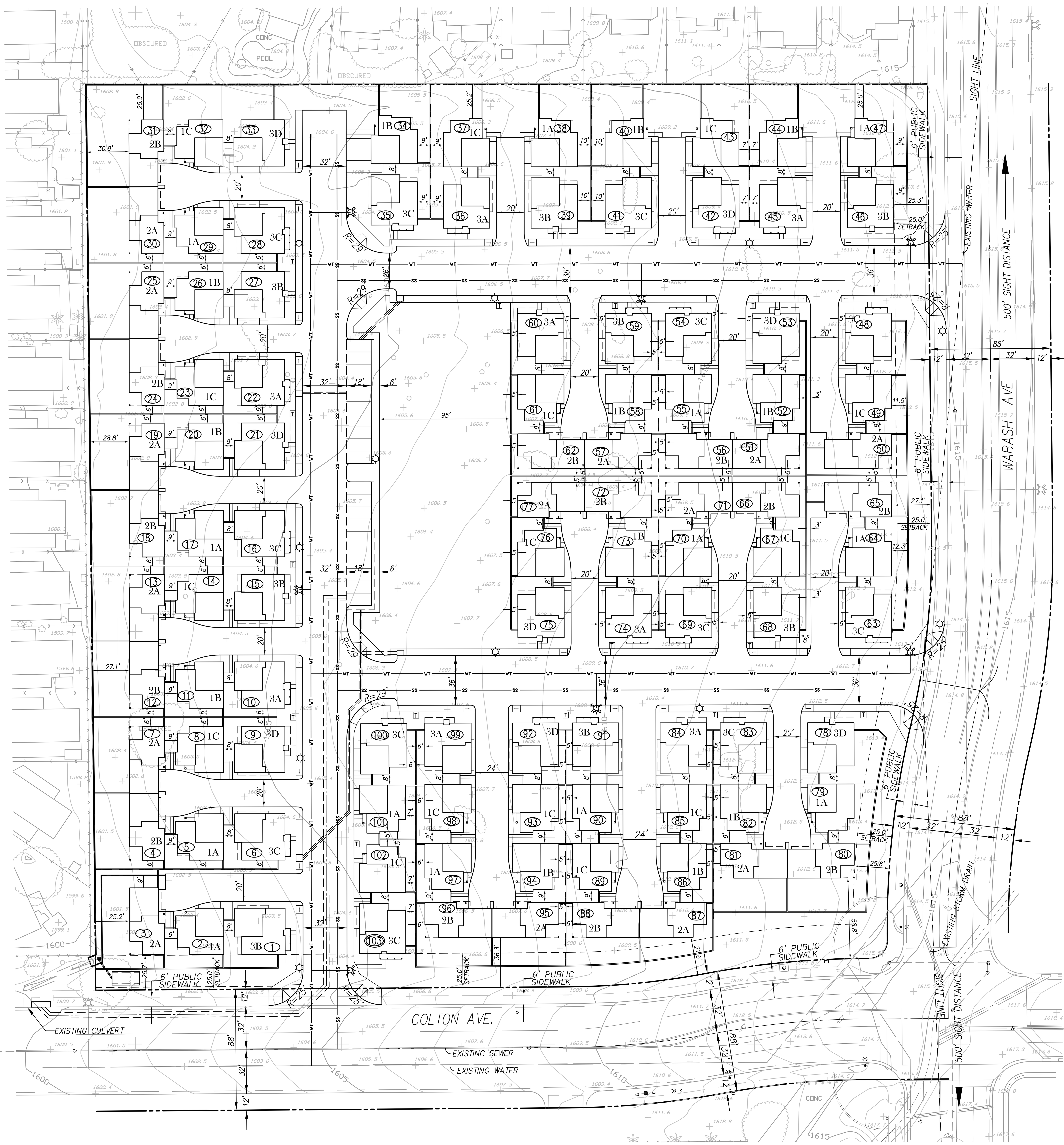
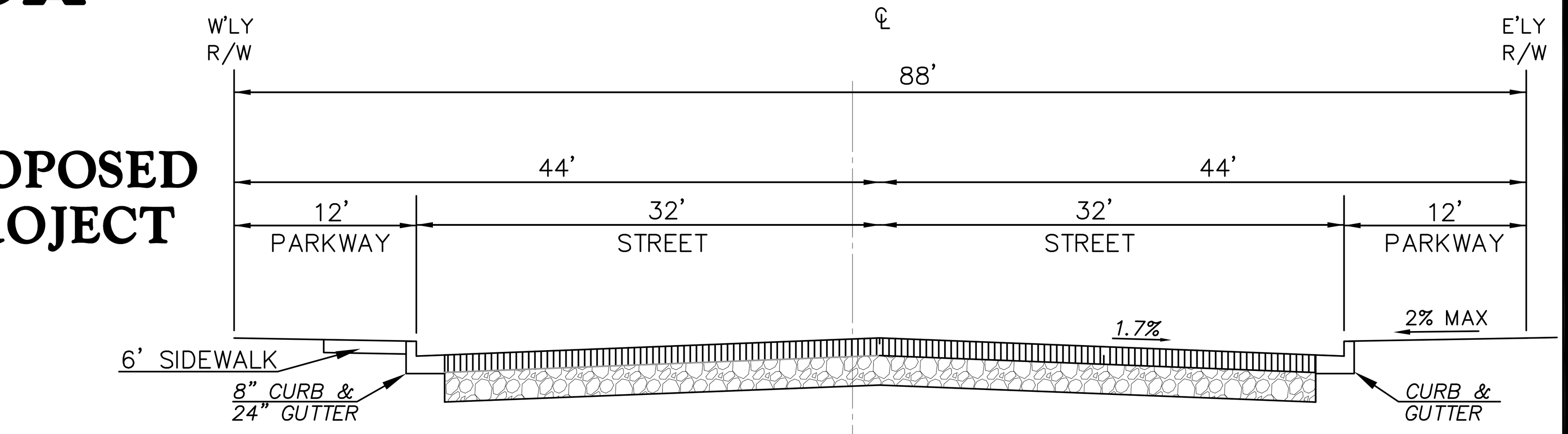
SITE PLAN

COLTON AVE & WABASH AVE, REDLANDS, CA



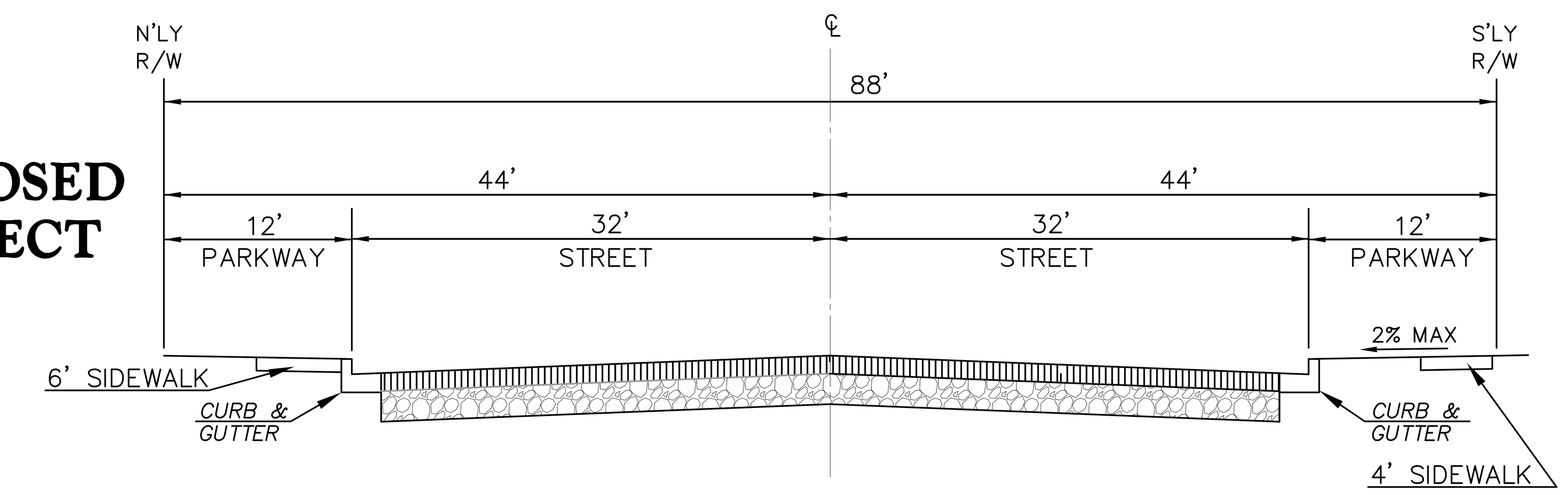
WABASH AVE.
TYPICAL SECTION
N.T.S.

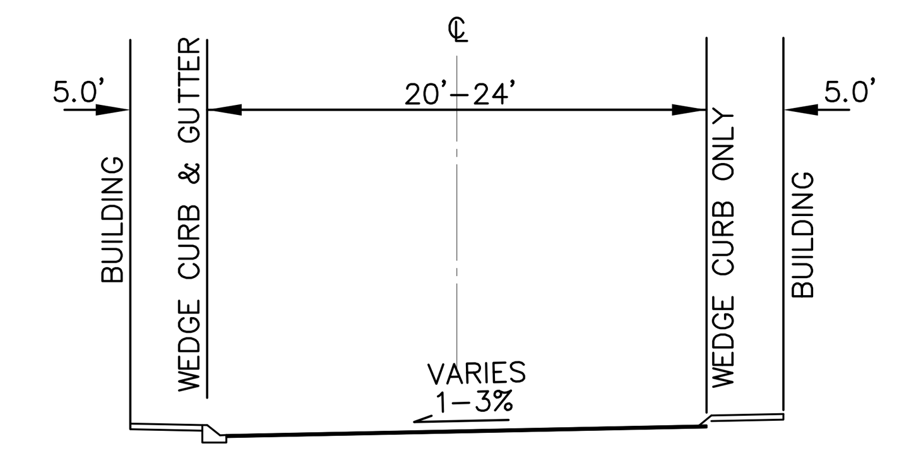
PROPOSED PROJECT



COLTON AVE.
TYPICAL SECTION
N.T.S.

PROPOSED PROJECT

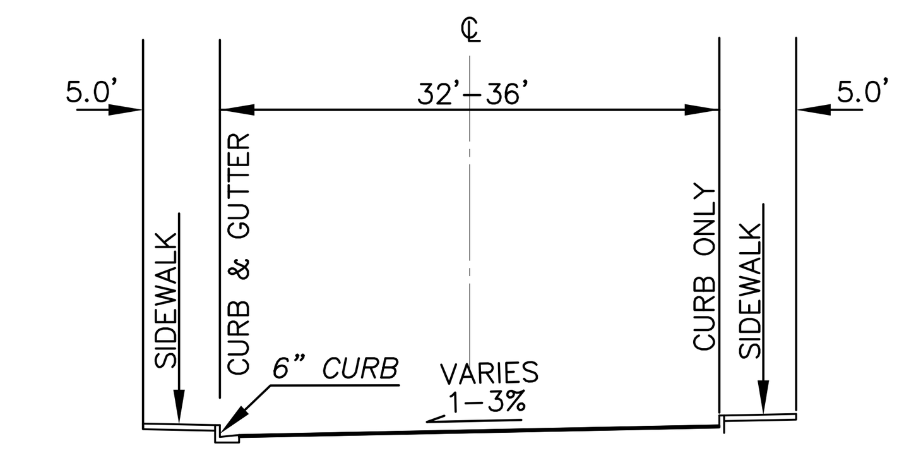




PRIVATE ON-SITE ALLEY

STREET SECTION

NO SCALE



PRIVATE ON-SITE STREET

STREET SECTION

NO SCALE

LEGEND

- PROP. LOT LINE
- BOUNDARY LINE
- PROP. CURB
- EX. CURB
- PROPOSED SEWER
- EXISTING SEWER
- PROPOSED WATER
- EXISTING WATER
- PROPOSED STORM DRAIN
- EXISTING STORM DRAIN

PROJECT SUMMARY

9.01 ACRES (NET & GROSS)
11.43 DU/ACRE
103 TOTAL UNITS

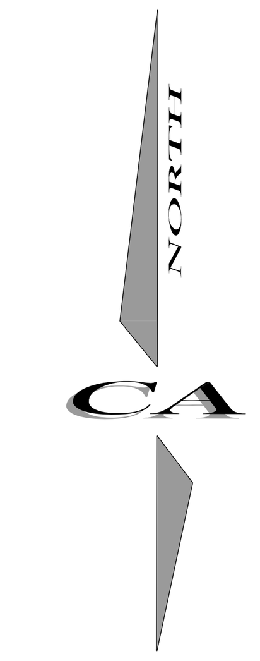
PRODUCT 1
40 UNITS
1,544 SF

PRODUCT 2
27 UNITS
1,700 SF

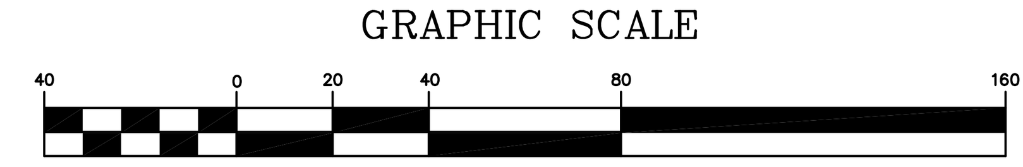
PROCUCT 3
36 UNITS
1,858 SF

PARKING SUMMARY
63 GUEST STALLS
206 GARAGE STALLS
269 TOTAL STALLS

MIX SUMMARY
PRODUCT 1 – 40 UNITS 38.8%
PRODUCT 2 – 27 UNITS 26.2%
PRODUCT 3 – 36 UNITS 35.0%



GRAPHIC SCALE



(IN FEET)
1 inch = 40 ft.

Soni 2012 Irrevocable Trusts
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Attachment 2
CalEEMod Project File Outputs

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Madera at Citrus Trail Single Family Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Madera at Citrus Trail Single Family
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	11.2
Location	34.06398413695213, -117.14011516418039
County	San Bernardino-South Coast
City	Redlands
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5388
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.12

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

Single Family Housing	103	Dwelling Unit	8.55	216,576	65,470	—	341	—
Other Asphalt Surfaces	20.1	1000sqft	0.46	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

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.	1.66	1.39	11.7	15.7	0.03	0.50	0.43	0.93	0.46	0.10	0.57	—	3,070	3,070	0.14	0.08	2.33	3,098
Mit.	0.87	0.77	9.74	17.5	0.03	0.12	0.43	0.55	0.12	0.10	0.22	—	3,070	3,070	0.14	0.08	2.33	3,098
% Reduced	48%	45%	17%	-12%	—	75%	—	41%	75%	—	61%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.43	68.2	36.0	33.8	0.05	1.60	7.83	9.43	1.47	3.98	5.45	—	6,462	6,462	0.50	0.57	0.20	6,644
Mit.	1.01	68.2	14.8	29.2	0.05	0.14	7.83	7.93	0.12	3.98	4.08	—	6,462	6,462	0.50	0.57	0.20	6,644
% Reduced	77%	—	59%	14%	—	91%	—	16%	92%	—	25%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.32	3.78	9.69	11.8	0.02	0.41	0.69	1.10	0.38	0.26	0.64	—	2,434	2,434	0.12	0.08	0.82	2,462
Mit.	0.62	3.77	7.41	12.8	0.02	0.09	0.69	0.78	0.08	0.26	0.35	—	2,434	2,434	0.12	0.08	0.82	2,462
% Reduced	53%	< 0.5%	23%	-9%	—	78%	—	29%	78%	—	46%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.24	0.69	1.77	2.15	< 0.005	0.08	0.13	0.20	0.07	0.05	0.12	—	403	403	0.02	0.01	0.14	408
Mit.	0.11	0.69	1.35	2.34	< 0.005	0.02	0.13	0.14	0.02	0.05	0.06	—	403	403	0.02	0.01	0.14	408
% Reduced	53%	< 0.5%	23%	-9%	—	78%	—	29%	78%	—	46%	—	—	—	—	—	—	—

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	1.66	1.39	11.7	15.7	0.03	0.50	0.43	0.93	0.46	0.10	0.57	—	3,070	3,070	0.14	0.08	2.33	3,098
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	4.43	3.73	36.0	33.8	0.05	1.60	7.83	9.43	1.47	3.98	5.45	—	6,462	6,462	0.50	0.57	0.20	6,644
2025	1.02	68.2	7.51	10.7	0.01	0.35	0.14	0.49	0.32	0.03	0.35	—	1,653	1,653	0.07	0.02	0.01	1,660
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.32	1.09	9.69	11.8	0.02	0.41	0.69	1.10	0.38	0.26	0.64	—	2,434	2,434	0.12	0.08	0.82	2,462
2025	0.06	3.78	0.40	0.58	< 0.005	0.02	0.01	0.03	0.02	< 0.005	0.02	—	88.9	88.9	< 0.005	< 0.005	0.02	89.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2024	0.24	0.20	1.77	2.15	< 0.005	0.08	0.13	0.20	0.07	0.05	0.12	—	403	403	0.02	0.01	0.14	408
2025	0.01	0.69	0.07	0.11	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	< 0.005	14.8

2.3. Construction Emissions by Year, Mitigated

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	0.87	0.77	9.74	17.5	0.03	0.12	0.43	0.55	0.12	0.10	0.22	—	3,070	3,070	0.14	0.08	2.33	3,098
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.01	0.76	14.8	29.2	0.05	0.14	7.83	7.93	0.12	3.98	4.08	—	6,462	6,462	0.50	0.57	0.20	6,644
2025	0.58	68.2	6.84	11.3	0.01	0.10	0.14	0.25	0.10	0.03	0.13	—	1,653	1,653	0.07	0.02	0.01	1,660
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.62	0.53	7.41	12.8	0.02	0.09	0.69	0.78	0.08	0.26	0.35	—	2,434	2,434	0.12	0.08	0.82	2,462
2025	0.04	3.77	0.37	0.61	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	88.9	88.9	< 0.005	< 0.005	0.02	89.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.11	0.10	1.35	2.34	< 0.005	0.02	0.13	0.14	0.02	0.05	0.06	—	403	403	0.02	0.01	0.14	408
2025	0.01	0.69	0.07	0.11	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.7	14.7	< 0.005	< 0.005	< 0.005	14.8

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.	4.81	9.31	5.54	36.1	0.08	0.24	2.28	2.52	0.24	0.41	0.64	61.9	11,230	11,292	6.75	0.36	27.5	11,596
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.98	8.51	5.71	25.7	0.08	0.24	2.28	2.52	0.23	0.41	0.64	61.9	10,776	10,838	6.77	0.37	2.22	11,121
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.17	8.76	4.38	30.0	0.07	0.12	2.28	2.40	0.12	0.41	0.53	61.9	9,037	9,099	6.74	0.37	12.8	9,391
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.76	1.60	0.80	5.47	0.01	0.02	0.42	0.44	0.02	0.07	0.10	10.2	1,496	1,506	1.12	0.06	2.11	1,555

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	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Area	0.73	5.62	1.59	6.49	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,968	1,968	0.04	< 0.005	—	1,970
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	4.81	9.31	5.54	36.1	0.08	0.24	2.28	2.52	0.24	0.41	0.64	61.9	11,230	11,292	6.75	0.36	27.5	11,596
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Area	0.18	5.10	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	3.98	8.51	5.71	25.7	0.08	0.24	2.28	2.52	0.23	0.41	0.64	61.9	10,776	10,838	6.77	0.37	2.22	11,121
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.34	3.42	25.6	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,639	6,639	0.36	0.34	11.2	6,760
Area	0.39	5.38	0.14	4.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	144	144	< 0.005	< 0.005	—	145
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	4.17	8.76	4.38	30.0	0.07	0.12	2.28	2.40	0.12	0.41	0.53	61.9	9,037	9,099	6.74	0.37	12.8	9,391
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119
Area	0.07	0.98	0.03	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	23.9	23.9	< 0.005	< 0.005	—	23.9
Energy	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	360	360	0.03	< 0.005	—	361
Water	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32

Total	0.76	1.60	0.80	5.47	0.01	0.02	0.42	0.44	0.02	0.07	0.10	10.2	1,496	1,506	1.12	0.06	2.11	1,555

2.6. Operations Emissions by Sector, Mitigated

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	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Area	0.73	5.62	1.59	6.49	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,968	1,968	0.04	< 0.005	—	1,970
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	4.81	9.31	5.54	36.1	0.08	0.24	2.28	2.52	0.24	0.41	0.64	61.9	11,230	11,292	6.75	0.36	27.5	11,596
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Area	0.18	5.10	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	3.98	8.51	5.71	25.7	0.08	0.24	2.28	2.52	0.23	0.41	0.64	61.9	10,776	10,838	6.77	0.37	2.22	11,121

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.68	3.34	3.42	25.6	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,639	6,639	0.36	0.34	11.2	6,760
Area	0.39	5.38	0.14	4.04	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	144	144	< 0.005	< 0.005	—	145
Energy	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	2,175	2,175	0.16	0.01	—	2,182
Water	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Waste	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	4.17	8.76	4.38	30.0	0.07	0.12	2.28	2.40	0.12	0.41	0.53	61.9	9,037	9,099	6.74	0.37	12.8	9,391
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119
Area	0.07	0.98	0.03	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	23.9	23.9	< 0.005	< 0.005	—	23.9
Energy	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	360	360	0.03	< 0.005	—	361
Water	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6
Waste	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Vegetation	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32
Total	0.76	1.60	0.80	5.47	0.01	0.02	0.42	0.44	0.02	0.07	0.10	10.2	1,496	1,506	1.12	0.06	2.11	1,555

3. Construction Emissions Details

3.1. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.34	3.65	36.0	32.9	0.05	1.60	—	1.60	1.47	—	1.47	—	5,296	5,296	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.99	0.90	< 0.005	0.04	—	0.04	0.04	—	0.04	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
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	0.18	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.86	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	168	168	0.01	0.01	0.02	170
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
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	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
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	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
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

3.2. Site Preparation (2024) - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	0.64	14.7	28.3	0.05	0.10	—	0.10	0.10	—	0.10	—	5,296	5,296	0.21	0.04	—	5,314

Dust From Material Movement	—	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.40	0.78	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	145	145	0.01	< 0.005	—	146
Dust From Material Movement	—	—	—	—	—	—	0.21	0.21	—	0.11	0.11	—	—	—	—	—	—	—
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	0.07	0.14	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	24.0	24.0	< 0.005	< 0.005	—	24.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.86	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	168	168	0.01	0.01	0.02	170
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

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	—	4.66	4.66	< 0.005	< 0.005	0.01	4.73
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	—	0.77	0.77	< 0.005	< 0.005	< 0.005	0.78
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

3.3. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.26	1.90	18.2	18.8	0.03	0.84	—	0.84	0.77	—	0.77	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	1.00	1.03	< 0.005	0.05	—	0.05	0.04	—	0.04	—	162	162	0.01	< 0.005	—	163

Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
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	0.18	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.74	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	144	144	0.01	0.01	0.02	146
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	0.44	0.07	4.30	2.32	0.02	0.06	0.88	0.95	0.04	0.24	0.28	—	3,359	3,359	0.37	0.54	0.18	3,530
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	—	8.00	8.00	< 0.005	< 0.005	0.01	8.12
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	0.02	< 0.005	0.24	0.13	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	184	184	0.02	0.03	0.17	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
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	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.03	32.0

3.4. Grading (2024) - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	0.47	10.0	17.8	0.03	0.08	—	0.08	0.08	—	0.08	—	2,958	2,958	0.12	0.02	—	2,969
Dust From Material Movement	—	—	—	—	—	—	2.77	2.77	—	1.34	1.34	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.55	0.97	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	162	162	0.01	< 0.005	—	163
Dust From Material Movement	—	—	—	—	—	—	0.15	0.15	—	0.07	0.07	—	—	—	—	—	—	—
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	0.10	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.8	26.8	< 0.005	< 0.005	—	26.9

Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.01	0.01	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.74	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	144	144	0.01	0.01	0.02	146
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	0.44	0.07	4.30	2.32	0.02	0.06	0.88	0.95	0.04	0.24	0.28	—	3,359	3,359	0.37	0.54	0.18	3,530
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	—	8.00	8.00	< 0.005	< 0.005	0.01	8.12
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	0.02	< 0.005	0.24	0.13	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	184	184	0.02	0.03	0.17	194
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.34
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	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.03	32.0

3.5. 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	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.07	8.26	0.01	0.31	—	0.31	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
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	0.17	0.14	1.29	1.51	< 0.005	0.06	—	0.06	0.05	—	0.05	—	250	250	0.01	< 0.005	—	251
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	0.20	0.18	0.14	2.36	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	388	388	0.02	0.01	1.54	394
Vendor	0.03	0.01	0.34	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	284	284	0.02	0.04	0.79	298
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.16	1.82	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	356	356	0.02	0.01	0.04	361
Vendor	0.03	0.01	0.36	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	284	284	0.02	0.04	0.02	298
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.20	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	227	227	0.01	0.01	0.42	231
Vendor	0.02	0.01	0.23	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	179	179	0.01	0.03	0.21	188
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	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.6	37.6	< 0.005	< 0.005	0.07	38.2
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.7	29.7	< 0.005	< 0.005	0.04	31.1
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

3.6. Building Construction (2024) - Mitigated

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	0.64	0.58	9.26	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.64	0.58	9.26	15.0	0.02	0.12	—	0.12	0.11	—	0.11	—	2,398	2,398	0.10	0.02	—	2,406
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.36	5.83	9.45	0.01	0.08	—	0.08	0.07	—	0.07	—	1,511	1,511	0.06	0.01	—	1,516
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	0.07	0.07	1.06	1.72	< 0.005	0.01	—	0.01	0.01	—	0.01	—	250	250	0.01	< 0.005	—	251
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	0.20	0.18	0.14	2.36	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	388	388	0.02	0.01	1.54	394
Vendor	0.03	0.01	0.34	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	284	284	0.02	0.04	0.79	298
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.16	1.82	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	356	356	0.02	0.01	0.04	361
Vendor	0.03	0.01	0.36	0.19	< 0.005	< 0.005	0.08	0.08	< 0.005	0.02	0.03	—	284	284	0.02	0.04	0.02	298
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.11	0.10	1.20	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	227	227	0.01	0.01	0.42	231
Vendor	0.02	0.01	0.23	0.12	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	179	179	0.01	0.03	0.21	188

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	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.6	37.6	< 0.005	< 0.005	0.07	38.2
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	29.7	29.7	< 0.005	< 0.005	0.04	31.1
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. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.01	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.9
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	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.96	1.96	< 0.005	< 0.005	—	1.97

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.74	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	144	144	0.01	0.01	0.02	146
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.14	1.14	< 0.005	< 0.005	< 0.005	1.16
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	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
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

3.8. Paving (2024) - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.54	0.48	6.85	10.6	0.01	0.12	—	0.12	0.11	—	0.11	—	1,512	1,512	0.06	0.01	—	1,517
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.05	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.9
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	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.96	1.96	< 0.005	< 0.005	—	1.97
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.07	0.07	0.74	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	144	144	0.01	0.01	0.02	146
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.14	1.14	< 0.005	< 0.005	< 0.005	1.16
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	—	0.19	0.19	< 0.005	< 0.005	< 0.005	0.19
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

3.9. Paving (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	7.45	9.98	0.01	0.35	—	0.35	0.32	—	0.32	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.35	0.47	< 0.005	0.02	—	0.02	0.02	—	0.02	—	71.0	71.0	< 0.005	< 0.005	—	71.2
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	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.68	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	141	141	0.01	0.01	0.01	143
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.71	6.71	< 0.005	< 0.005	0.01	6.81
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	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.13
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

3.10. Paving (2025) - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.51	0.46	6.78	10.6	0.01	0.10	—	0.10	0.10	—	0.10	—	1,511	1,511	0.06	0.01	—	1,517
Paving	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.32	0.50	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	71.0	71.0	< 0.005	< 0.005	—	71.2
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	< 0.005	< 0.005	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.8	11.8	< 0.005	< 0.005	—	11.8
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	0.68	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	141	141	0.01	0.01	0.01	143
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.71	6.71	< 0.005	< 0.005	0.01	6.81
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	—	1.11	1.11	< 0.005	< 0.005	< 0.005	1.13
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 (2025) - 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	68.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
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	—	3.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	69.7	69.7	< 0.005	< 0.005	0.01	70.6
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
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	—	3.87	3.87	< 0.005	< 0.005	0.01	3.93
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	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	—	68.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
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	—	3.73	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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

Architect Coatings	—	0.68	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.03	0.33	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	69.7	69.7	< 0.005	< 0.005	0.01	70.6
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
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	—	3.87	3.87	< 0.005	< 0.005	0.01	3.93
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	—	0.64	0.64	< 0.005	< 0.005	< 0.005	0.65
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	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Other 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
Total	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Other 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
Total	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119
Other 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
Total	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119

4.1.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Other 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
Total	3.98	3.64	3.13	29.3	0.07	0.05	2.28	2.33	0.04	0.41	0.45	—	7,009	7,009	0.35	0.33	26.0	7,141
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Other 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
Total	3.71	3.36	3.36	24.7	0.06	0.05	2.28	2.33	0.04	0.41	0.45	—	6,571	6,571	0.36	0.34	0.67	6,681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119
Other 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
Total	0.67	0.61	0.62	4.67	0.01	0.01	0.42	0.42	0.01	0.07	0.08	—	1,099	1,099	0.06	0.06	1.86	1,119

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	189	189	0.01	< 0.005	—	190
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	189	189	0.01	< 0.005	—	190

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,142	1,142	0.07	0.01	—	1,147
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	189	189	0.01	< 0.005	—	190
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	189	189	0.01	< 0.005	—	190

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Other 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
Total	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Other 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
Total	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171	171	0.02	< 0.005	—	171
Other 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
Total	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171	171	0.02	< 0.005	—	171

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Other 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
Total	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Other 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
Total	0.10	0.05	0.81	0.35	0.01	0.07	—	0.07	0.07	—	0.07	—	1,033	1,033	0.09	< 0.005	—	1,036
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171	171	0.02	< 0.005	—	171
Other 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
Total	0.02	0.01	0.15	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	171	171	0.02	< 0.005	—	171

4.3. Area Emissions by Source

4.3.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.18	0.09	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Consumer Products	—	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.55	0.53	0.06	5.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Total	0.73	5.62	1.59	6.49	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,968	1,968	0.04	< 0.005	—	1,970
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.18	0.09	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Consumer Products	—	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.18	5.10	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Consumer Products	—	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	0.07	0.01	0.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.77	1.77	< 0.005	< 0.005	—	1.78
Total	0.07	0.98	0.03	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	23.9	23.9	< 0.005	< 0.005	—	23.9

4.3.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.18	0.09	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Consumer Products	—	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.55	0.53	0.06	5.83	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.6	15.6	< 0.005	< 0.005	—	15.7
Total	0.73	5.62	1.59	6.49	0.01	0.13	—	0.13	0.13	—	0.13	0.00	1,968	1,968	0.04	< 0.005	—	1,970
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.18	0.09	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Consumer Products	—	4.64	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.18	5.10	1.54	0.65	0.01	0.12	—	0.12	0.12	—	0.12	0.00	1,952	1,952	0.04	< 0.005	—	1,954
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	22.1	22.1	< 0.005	< 0.005	—	22.2
Consumer Products	—	0.85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	0.07	0.01	0.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.77	1.77	< 0.005	< 0.005	—	1.78
Total	0.07	0.98	0.03	0.74	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	23.9	23.9	< 0.005	< 0.005	—	23.9

4.4. Water Emissions by Land Use

4.4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6

4.4.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.23	52.5	60.8	0.85	0.02	—	88.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1.36	8.70	10.1	0.14	< 0.005	—	14.6

4.5. Waste Emissions by Land Use

4.5.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1

4.5.1. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	53.7	0.00	53.7	5.36	0.00	—	188
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	8.88	0.00	8.88	0.89	0.00	—	31.1

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26

4.6.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.26	0.26

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

4.7.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	26.1	26.1	—	—	—	26.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Grassland	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32
Total	—	—	—	—	—	—	—	—	—	—	—	—	4.32	4.32	—	—	—	4.32

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Site Preparation	Site Preparation	1/1/2024	1/12/2024	5.00	10.0	—
Grading	Grading	1/13/2024	2/9/2024	5.00	20.0	—
Building Construction	Building Construction	2/10/2024	12/27/2024	5.00	230	—
Paving	Paving	12/28/2024	1/24/2025	5.00	20.0	—
Architectural Coating	Architectural Coating	1/25/2025	2/21/2025	5.00	20.0	—

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
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37

Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Tier 4 Interim	1.00	8.00	148	0.41
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	1.00	8.00	367	0.40
Building Construction	Forklifts	Diesel	Tier 4 Interim	3.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Cranes	Diesel	Tier 4 Interim	1.00	7.00	367	0.29
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	3.00	7.00	84.0	0.37
Paving	Pavers	Diesel	Tier 4 Interim	2.00	8.00	81.0	0.42

Paving	Paving Equipment	Diesel	Tier 4 Interim	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	13.4	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.33	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	13.4	LDA,LDT1,LDT2
Grading	Vendor	—	8.33	HHDT,MHDT
Grading	Hauling	47.7	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	37.1	13.4	LDA,LDT1,LDT2
Building Construction	Vendor	11.0	8.33	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	13.4	LDA,LDT1,LDT2
Paving	Vendor	—	8.33	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT

Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	7.42	13.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.33	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	13.4	LDA,LDT1,LDT2
Site Preparation	Vendor	—	8.33	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	13.4	LDA,LDT1,LDT2
Grading	Vendor	—	8.33	HHDT,MHDT
Grading	Hauling	47.7	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	37.1	13.4	LDA,LDT1,LDT2
Building Construction	Vendor	11.0	8.33	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	13.4	LDA,LDT1,LDT2
Paving	Vendor	—	8.33	HHDT,MHDT

Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	7.42	13.4	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	8.33	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

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	438,566	146,189	0.00	0.00	1,206

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	0.00	0.00	15.0	0.00	—
Grading	7,631	0.00	20.0	0.00	—
Paving	0.00	0.00	0.00	0.00	1.60

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	1.13	0%
Other Asphalt Surfaces	0.46	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	11.5	532	0.03	< 0.005
2025	11.5	532	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
Single Family Housing	918	918	918	335,070	8,184	8,184	8,184	2,987,160
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	918	918	918	335,070	8,184	8,184	8,184	2,987,160

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	93
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	10

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	93
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	10

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)

438566.39999999997	146,189	0.00	0.00	1,206

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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)
Single Family Housing	783,791	532	0.0330	0.0040	3,222,841
Other Asphalt Surfaces	0.00	532	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Single Family Housing	783,791	532	0.0330	0.0040	3,222,841
Other Asphalt Surfaces	0.00	532	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)
Single Family Housing	4,293,161	1,285,033
Other Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	4,293,161	1,285,033
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	99.6	—
Other Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	99.6	—
Other Asphalt Surfaces	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
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

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

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

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

5.18.1.2. Mitigated

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
Grassland	9.01	0.00

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
Grassland	9.01	0.00

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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	27.8	annual days of extreme heat
Extreme Precipitation	4.35	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	24.9	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	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	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	3	1	1	3
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	100
AQ-PM	54.9
AQ-DPM	38.7
Drinking Water	60.9
Lead Risk Housing	12.4
Pesticides	77.6
Toxic Releases	41.8
Traffic	9.22
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	60.9
Cardio-vascular	57.4

Low Birth Weights	84.0
Socioeconomic Factor Indicators	—
Education	30.0
Housing	13.6
Linguistic	22.2
Poverty	30.3
Unemployment	66.6

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	77.77492622
Employed	32.144232
Median HI	75.87578596
Education	—
Bachelor's or higher	59.98973438
High school enrollment	100
Preschool enrollment	65.54600282
Transportation	—
Auto Access	70.20402926
Active commuting	60.27203901
Social	—
2-parent households	47.77364301
Voting	65.10971385
Neighborhood	—
Alcohol availability	79.76389067

Park access	40.33106634
Retail density	23.63659695
Supermarket access	33.46593096
Tree canopy	32.7216733
Housing	—
Homeownership	92.89105608
Housing habitability	96.7406647
Low-inc homeowner severe housing cost burden	85.75644809
Low-inc renter severe housing cost burden	89.32375209
Uncrowded housing	96.93314513
Health Outcomes	—
Insured adults	76.99217246
Arthritis	36.9
Asthma ER Admissions	48.9
High Blood Pressure	59.0
Cancer (excluding skin)	22.7
Asthma	51.9
Coronary Heart Disease	61.0
Chronic Obstructive Pulmonary Disease	59.8
Diagnosed Diabetes	78.0
Life Expectancy at Birth	36.8
Cognitively Disabled	93.6
Physically Disabled	46.5
Heart Attack ER Admissions	44.1
Mental Health Not Good	68.6
Chronic Kidney Disease	73.0
Obesity	64.9

Pedestrian Injuries	19.6
Physical Health Not Good	72.6
Stroke	70.4
Health Risk Behaviors	—
Binge Drinking	14.4
Current Smoker	69.0
No Leisure Time for Physical Activity	82.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	55.0
Elderly	49.5
English Speaking	94.9
Foreign-born	1.7
Outdoor Workers	84.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	66.4
Traffic Density	16.9
Traffic Access	23.0
Other Indices	—
Hardship	19.6
Other Decision Support	—
2016 Voting	81.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	41.0

Healthy Places Index Score for Project Location (b)	68.0
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
Land Use	Updated land use lot acreage, building square footage and landscape area based on project site plan 3/10/23 and data request response 4/26/23.
Construction: Construction Phases	Removed Demolition phase as the project site is undeveloped.
Operations: Vehicle Data	Updated daily trip rate based on traffic impact analysis conducted by Ganddini Group 5/3/23. Updated trip length based on TAZ VMT per the VMT screening assessment conducted by Ganddini Group 4/7/23.
Operations: Hearths	Updated fireplaces to be all natural gas fueled and removed wood burning stoves based on South Coast Rule 445.
Construction: Electricity	Added a 25kW generator, assumed to operate for an 11 hour period any day during the week, to represent electricity consumption associated with construction trailer operation.

Attachment 3

Energy Calculations

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ATTACHMENT 3

Madera at Citrus Trail Residential Project (Redlands, CA)

Energy Calculations

Prepared by: MIG, Inc.

July 2023

Contents:

Sheet 1: Summary of Energy Consumption

Table 1-1: Off-Road Equipment Fuel Consumption

Year	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kWh)*
Off-Road Equipment	22,753	--	14
On-Road Equipment	5,279	5,017	949
Total	28,031	5,017	963

*Included approximately 14 kWh to account for on-site generator

Table 1-2: Operational Vehicle Fuel Consumption

Operational Estimates	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)
Mobile Sources	26,881	105,772	38,286
Based on Annual VMT of:	2,987,160		

Table 1-3: Operational Energy Consumption (Building)

Land Use	Unmitigated		Mitigated*	
	Electricity (kWh/yr)	Natural Gas (kBTU/yr)	Electricity (kWh/yr)	Natural Gas (kBTU/yr)
Apartments Mid Rise	783,791	3,222,841	1,728,352	0
Other Asphalt	0	0	0	0
Total	783,791	3,222,841	1,728,352	0

* CalEEMod default natural gas use of was converted to kWh assuming 3.412 KBTU/kWh

Table 1-4: Total Operational Energy Consumption (Unmitigated)

Source	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)	Natural Gas (kBTU/yr)
Mobile Source	26,881	105,772	38,286	0
Building	0	0	783,791	3,222,841
Total	26,881	105,772	822,077	3,222,841

Table 1-5: Total Operational Energy Consumption (Mitigated)

Source	Diesel Fuel Consumed (Gal)	Gasoline Fuel Consumed (Gal)	Electricity Consumed (kW)	Natural Gas (kBTU/yr)
Mobile Source	26,881	105,772	38,286	0
Building	0	0	1,728,352	0
Total	26,881	105,772	1,766,637	0

Sheet 2: Construction On-site Fuel Consumption Estimations

Phase	Days	Equipment	# of Pieces	Hr/Day	Horsepower	Load Factor	Runtime (bhp-hr)	Consumption (bhp-hr/gal)[1]	Gallons of Diesel
Site Preparation	10	Rubber Tired Dozers	3	8	367	0.40	35,232	18.5	1,904
		Tractors/Loaders/Backhoes	4	8	84	0.37	9,946		538
Grading	20	Grader	1	8	148	0.41	9,709		525
		Excavators	1	8	36	0.38	2,189		118
		Tractors/Loaders/Backhoes	3	8	84	0.37	14,918		806
		Rubber Tired Dozers	1	8	367	0.40	23,488		1,270
Building Construction	230	Forklifts	3	8	82	0.20	90,528		4,893
		Generator Sets	1	8	14	0.74	19,062		1,030
		Cranes	1	7	367	0.29	0		
		Welders	1	8	46	0.45	38,088		2,059
		Tractors/Loaders/Backhoes	3	7	84	0.37	150,116		8,114
Paving	20	Pavers	2	8	81	0.42	10,886		588
		Paving Equipment	2	8	89	0.36	10,253		554
		Rollers	2	8	36	0.38	4,378		237
Architectural Coating	20	Air Compressors	1	6	37	0.48	2,131		115
								Total	22,753

[1] The Carl Moyer Program Guidelines 2017 Revisions. Table D-21. Approved by the Board April 27, 2017.

Sheet 3: Construction Off-site Fuel Consumption Estimates

Phase	Days	Number of Trips	Dist (mi)	Total VMT	Vehicle Class	Percent of Workers by Vehcile Class	Gasoline Average Fuel Economy (MPG)	Gasoline Fuel Split	Gasoline Fuel Consumption by Class (gal)	Diesel Average Fuel Economy (MPG)	Diesel Fuel Split	Diesel Fuel Consumption by Class (gal)	Electricity Average Economy (mi/kWh)	Electric Split	Electricity Consumption by Class (kWh)	Hybrid Average Economy (mi/kWh)	Hybrid Average Economy (mi/gal)	Hybrid Split	Hybrid Consumption by Class (kWh)	Hybrid Consumption by Class (gal)	Gasoline Fuel Consumption by Phase (gal)	Diesel Fuel Consumption by Phase (gal)	Electricity Consumption by Phase (kWh)
Worker Trips																							
Site Preparation	10	18	13.38	2408.4	LDA	0.25	29.7	93.33%	19	42.9	0.21%	0.0	2.59	3.92%	9.1	6.6	60.6	2.54%	2.3	0.3	92.3	0.1	14.6
					LDT1	0.50	24.5	99.70%	49	24.3	0.03%	0.0	2.59	0.14%	0.7	6.0	66.6	0.13%	0.3	0.0			
					LDT2	0.25	24.2	98.31%	24	33.1	0.27%	0.0	2.59	0.61%	1.4	6.2	63.6	0.81%	0.8	0.1			
Grading	20	15	13.38	4014	LDA	0.25	29.7	93.33%	31	42.9	0.2%	0.0	2.59	3.92%	15.2	6.6	60.6	2.54%	3.9	0.4	153.9	0.2	24.3
					LDT1	0.50	24.5	99.70%	82	24.3	0.03%	0.0	2.59	0.14%	1.1	6.0	66.6	0.13%	0.4	0.0			
					LDT2	0.25	24.2	98.31%	41	33.1	0.3%	0.1	2.59	0.61%	2.4	6.2	63.6	0.81%	1.3	0.1			
Building Foundation	230	37	13.38	113864	LDA	0.25	29.7	93.3%	893	42.9	0.2%	1.4	2.59	3.92%	430.7	6.6	60.6	2.54%	110.1	11.9	4,364.6	4.3	688.8
					LDT1	0.50	24.5	99.7%	2,315	24.3	0.03%	0.6	2.59	0.14%	31.4	6.0	66.6	0.13%	12.1	1.1			
					LDT2	0.25	24.2	98.3%	1,156	33.1	0.3%	2.3	2.59	0.61%	67.3	6.2	63.6	0.81%	37.3	3.6			
Paving	20	15	13.38	4014	LDA	0.25	29.7	93.3%	31	42.9	0.2%	0.0	2.59	3.92%	15.2	6.6	60.6	2.54%	3.9	0.4	153.9	0.2	24.3
					LDT1	0.50	24.5	99.7%	82	24.3	0.03%	0.0	2.59	0.14%	1.1	6.0	66.6	0.13%	0.4	0.0			
					LDT2	0.25	24.2	98.3%	41	33.1	0.3%	0.1	2.59	0.61%	2.4	6.2	63.6	0.81%	1.3	0.1			
Architectural Coating	20	7	13.38	1873.2	LDA	0.25	29.7	93.3%	15	42.9	0.2%	0.0	2.59	3.92%	7.1	6.6	60.6	2.54%	1.8	0.2	71.8	0.1	11.3
					LDT1	0.50	24.5	99.7%	38	24.3	0.03%	0.0	2.59	0.14%	0.5	6.0	66.6	0.13%	0.2	0.0			
					LDT2	0.25	24.2	98.3%	19	33.1	0.3%	0.0	2.59	0.61%	1.1	6.2	63.6	0.81%	0.6	0.1			
Sub-Total Worker Trips Energy Consumption							Gasoline (gal)		4,836.4	Diesel (gal)		4.8	Electricity (kWh)		586.6	Hybrid (kWh; gal of gasoline)			176.7	18.5	4,836.4	4.8	763.2
Vendor Trips																							
Building Construction	230	11	8.33	21075	MHDT	0.5	5.2	8.8%	178	9.0	89.77%	1,057	0.96	0.28%	30.58	--	--	--	--	--	178.5	2,550.9	85.6
					HHDT	0.5	3.7	0.0%	1	6.0	84.94%	1,494	0.56	0.29%	55.03	--	--	--	--	--			
Sub-Total Vendor Trips Energy Consumption							Gasoline (gal)		178.5	Diesel (gal)		2,550.9	Electricity (kWh)		85.6	--	--	--	--	--	178	2,551	86
Hauling Trips																							
Grading	20	48	20	19200	HHDT	1.0	3.7	0.03%	1.7	6.0	84.94%	2,723	0.6	0.29%	100.27	--	--	--	--	--	1.7	2,723	100.27
Sub-Total Haul Trips Energy Consumption							Gasoline (gal)		1.706	Diesel (gal)		2,722.8	Electricity (kWh)		100	--	--	--	--	--	1.7	2,723	100
Total On-Road Construction Trips Genergy Usage									**Gasoline (gal)**	**5,017**		**Diesel (gal)**	**5,279**		**Electricity (kWh)**			**949**					

Sheet 4: Average Fuel Efficiency - San Bernarino County

EMFAC2021 San Bernardino County Fuel Efficiency Estimates for 2024

Table 1: 2024 SB County Average Vehicle Fuel Efficiency (Gasoline)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Gallons Per Day	Miles Per Gallon
HHDT	5.57	65,632.20	17,555.07	3.74
LDA	471,817.60	7,108,656,035.69	238,945,182.97	29.75
LDT1	40,777.15	490,527,517.74	20,006,019.37	24.52
LDT2	194,249.37	2,770,366,492.83	114,344,525.16	24.23
LHDT1	17,179.49	208,481,689.10	15,346,534.88	13.58
LHDT2	2,883.70	33,531,637.34	2,787,053.65	12.03
MCY	20,751.93	42,918,713.78	1,022,389.67	41.98
MDV	148,169.82	2,031,874,616.51	103,279,186.82	19.67
MH	3,401.97	9,880,592.44	2,022,448.20	4.89
MHDT	1,460.60	25,635,396.94	4,923,389.14	5.21
OBUS	370.02	5,168,863.66	1,012,113.04	5.11
SBUS	297.87	4,585,227.50	511,431.11	8.97
UBUS	54.72	1,718,010.10	132,909.22	12.93
TOTAL	901,419.81	12,733,410,425.82	504,350,738.30	25.25

Table 2: 2024 SB County Average Vehicle Fuel Efficiency (Diesel)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Gallons Per Day	Miles Per Gallon
HHDT	14,231.96	551,042,326.43	92,002,932.90	5.99
LDA	1,047.59	13,077,704.42	304,694.00	42.92
LDT1	10.72	55,107.22	2,270.24	24.27
LDT2	520.90	8,078,084.97	243,685.16	33.15
LHDT1	11,382.10	142,493,007.46	6,928,746.33	20.57
LHDT2	4,825.53	61,039,665.72	3,552,258.74	17.18
MCY	0.00	0.00	0.00	0.00
MDV	1,910.88	26,864,024.48	1,129,452.06	23.79
MH	1,336.40	3,946,369.35	385,834.26	10.23
MHDT	14,946.47	202,976,493.91	22,669,390.63	8.95
OBUS	210.55	4,437,514.63	600,064.55	7.40
SBUS	373.29	2,533,365.66	344,145.14	7.36
UBUS	4.56	147,096.84	14,214.29	10.35
TOTAL	50800.95	1016690761.08	128177688.31	7.93

Table 3: 2024 SB County Average Vehicle Fuel Efficiency (Electricity)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Energy Consumption (kWh/day)	Miles Per kWh
HHDT	48.63	1,514,395.86	2,724,993.94	0.56
LDA	31,787.74	432,233,324.20	157,443,334.27	2.75
LDT1	110.09	1,461,592.33	521,481.49	2.80
LDT2	2,793.87	29,638,346.88	10,212,887.57	2.90
LHDT1	52.74	1,282,659.76	718,973.21	1.78
LHDT2	13.65	314,553.55	176,464.27	1.78
MCY	0.00	0.00	0.00	0.00
MDV	2,356.18	25,944,442.91	9,231,611.31	2.81
MH	0.00	0.00	0.00	0.00
MHDT	46.14	737,631.43	772,374.81	0.96
OBUS	0.81	21,328.85	22,399.05	0.95
SBUS	2.21	18,416.71	21,295.26	0.86
UBUS	7.33	363,414.40	711,016.39	0.51
TOTAL	37,219.39	493,530,106.88	182,556,831.57	2.70

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	NOx_RUNI	NOx_IDLE	NOx_STRE	NOx_TOTE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_TO	PM2.5_PM
San Bernar	2024	HHDT	Aggregate	Aggregate	Gasoline	5.565988	65632.2	65632.2	0	36416.12	0	0.891401	0	0.047136	0.938537	0.000297	0	8.74E-05	0.000384	0.000362
San Bernar	2024	HHDT	Aggregate	Aggregate	Diesel	14231.96	5.51E+08	5.51E+08	0	66909545	0	1100.505	307.9044	207.8081	1616.218	15.97858	0.155617	0	16.1342	5.337473
San Bernar	2024	HHDT	Aggregate	Aggregate	Electricity	48.62872	1514396	0	1514396	194680.8	2724994	0	0	0	0	0	0	0	0	0.014319
San Bernar	2024	HHDT	Aggregate	Aggregate	Natural Ga	2469.471	50027967	50027967	0	4431190	0	59.53307	7.282097	0	66.81517	0.099661	0.008354	0	0.108015	0.496318
San Bernar	2024	LDA	Aggregate	Aggregate	Gasoline	459317.1	7E+09	7E+09	0	7.41E+08	0	299.1504	0	197.2636	496.414	9.119045	0	1.574457	10.6935	15.4284
San Bernar	2024	LDA	Aggregate	Aggregate	Diesel	1047.589	13077704	13077704	0	1565577	0	2.521363	0	0	2.521363	0.210004	0	0	0.210004	0.028831
San Bernar	2024	LDA	Aggregate	Aggregate	Electricity	19287.28	3.2E+08	0	3.2E+08	33644011	1.24E+08	0	0	0	0	0	0	0	0	0.705456
San Bernar	2024	LDA	Aggregate	Aggregate	Plug-in Hyl	12500.46	2.23E+08	1.1E+08	1.12E+08	17936220	33900992	0.73851	0	2.198065	2.936574	0.148893	0	0.040042	0.188935	0.490961
San Bernar	2024	LDT1	Aggregate	Aggregate	Gasoline	40725.36	4.9E+08	4.9E+08	0	61050900	0	100.7008	0	31.55938	132.2602	1.111417	0	0.218372	1.329789	1.08052
San Bernar	2024	LDT1	Aggregate	Aggregate	Diesel	10.72176	55107.22	55107.22	0	10654.81	0	0.095142	0	0	0.095142	0.014046	0	0	0.014046	0.000121
San Bernar	2024	LDT1	Aggregate	Aggregate	Electricity	58.29951	952224.2	0	952224.2	100915	367637.1	0	0	0	0	0	0	0	0	0.002099
San Bernar	2024	LDT1	Aggregate	Aggregate	Plug-in Hyl	51.79076	921312	411943.9	509368.1	74311.71	153844.3	0.002754	0	0.009107	0.011861	0.000374	0	0.000113	0.000486	0.002031
San Bernar	2024	LDT2	Aggregate	Aggregate	Gasoline	192654.7	2.76E+09	2.76E+09	0	3.13E+08	0	220.3756	0	113.6475	334.0231	3.64959	0	0.664571	4.314161	6.079382
San Bernar	2024	LDT2	Aggregate	Aggregate	Diesel	520.8967	8078085	8078085	0	875930.8	0	0.444071	0	0	0.444071	0.043362	0	0	0.043362	0.017809
San Bernar	2024	LDT2	Aggregate	Aggregate	Electricity	1199.247	15005146	0	15005146	2127908	5793225	0	0	0	0	0	0	0	0	0.033081
San Bernar	2024	LDT2	Aggregate	Aggregate	Plug-in Hyl	1594.626	27438602	12805401	14633201	2288040	4419663	0.08562	0	0.280397	0.366017	0.013723	0	0.00408	0.017803	0.060492
San Bernar	2024	LHDT1	Aggregate	Aggregate	Gasoline	17179.49	2.08E+08	2.08E+08	0	83695263	0	41.43836	0.229057	58.97993	100.6473	0.251041	0	0.030508	0.281549	0.459623
San Bernar	2024	LHDT1	Aggregate	Aggregate	Diesel	11382.1	1.42E+08	1.42E+08	0	46817398	0	272.6614	8.465781	0	281.1272	4.062291	0.107991	0	4.170283	0.471215
San Bernar	2024	LHDT1	Aggregate	Aggregate	Electricity	52.74031	1282660	0	1282660	240916.8	718973.2	0	0	0	0	0	0	0	0	0.002828
San Bernar	2024	LHDT2	Aggregate	Aggregate	Gasoline	2883.702	33531637	33531637	0	14048858	0	5.632717	0.03883	10.05596	15.72751	0.034029	0	0.003693	0.037722	0.073925
San Bernar	2024	LHDT2	Aggregate	Aggregate	Diesel	4825.532	61039666	61039666	0	19848614	0	90.04689	3.512275	0	93.55916	1.607242	0.045855	0	1.653097	0.201854
San Bernar	2024	LHDT2	Aggregate	Aggregate	Electricity	13.65084	314553.6	0	314553.6	59087.53	176464.3	0	0	0	0	0	0	0	0	0.000693
San Bernar	2024	MCY	Aggregate	Aggregate	Gasoline	20751.93	42918714	42918714	0	14401839	0	27.60697	0	2.20262	29.80959	0.08256	0	0.048899	0.131458	0.04731
San Bernar	2024	MDV	Aggregate	Aggregate	Gasoline	147141.1	2.02E+09	2.02E+09	0	2.34E+08	0	256.9034	0	119.9245	376.8279	2.791361	0	0.533298	3.324659	4.460497
San Bernar	2024	MDV	Aggregate	Aggregate	Diesel	1910.883	26864024	26864024	0	3071199	0	4.450935	0	0	4.450935	0.242104	0	0	0.242104	0.059225
San Bernar	2024	MDV	Aggregate	Aggregate	Electricity	1327.49	16604057	0	16604057	2355234	6410536	0	0	0	0	0	0	0	0	0.036606
San Bernar	2024	MDV	Aggregate	Aggregate	Plug-in Hyl	1028.69	17967703	8627317	9340386	1476011	2821075	0.057684	0	0.180884	0.238568	0.0114	0	0.003259	0.014659	0.039612
San Bernar	2024	MH	Aggregate	Aggregate	Gasoline	3401.971	9880592	9880592	0	111288.9	0	3.976062	0	0.051305	4.027367	0.011777	0	4.29E-05	0.01182	0.032674
San Bernar	2024	MH	Aggregate	Aggregate	Diesel	1336.398	3946369	3946369	0	43700.2	0	17.09166	0	0	17.09166	0.529214	0	0	0.529214	0.017401
San Bernar	2024	MHDT	Aggregate	Aggregate	Gasoline	1460.602	25635397	25635397	0	9556159	0	11.90358	0.046973	4.504197	16.45475	0.025321	0	0.004975	0.030296	0.084775
San Bernar	2024	MHDT	Aggregate	Aggregate	Diesel	14946.47	2.03E+08	2.03E+08	0	57172237	0	175.313	61.50415	105.0881	341.9053	2.192106	0.09799	0	2.290096	0.67123
San Bernar	2024	MHDT	Aggregate	Aggregate	Electricity	46.13646	737631.4	0	737631.4	185958.6	772374.8	0	0	0	0	0	0	0	0	0.002439
San Bernar	2024	MHDT	Aggregate	Aggregate	Natural Ga	195.6757	2964797	2964797	0	564869.1	0	0.330411	0.438671	0	0.769082	0.002361	0.001151	0	0.003512	0.009804
San Bernar	2024	OBUS	Aggregate	Aggregate	Gasoline	370.0192	5168864	5168864	0	2420894	0	2.496521	0.008634	1.052153	3.557308	0.004647	0	0.000814	0.005461	0.017093
San Bernar	2024	OBUS	Aggregate	Aggregate	Diesel	210.552	4437515	4437515	0	726190.1	0	9.279316	0.877598	1.309884	11.4668	0.207597	0.001773	0	0.20937	0.014675
San Bernar	2024	OBUS	Aggregate	Aggregate	Electricity	0.809762	21328.85	0	21328.85	5297.961	22399.05	0	0	0	0	0	0	0	0	7.05E-05
San Bernar	2024	OBUS	Aggregate	Aggregate	Natural Ga	32.78529	582103.1	582103.1	0	85202.41	0	0.084277	0.016304	0	0.10058	0.000485	3.92E-05	0	0.000524	0.001925
San Bernar	2024	SBUS	Aggregate	Aggregate	Gasoline	297.8692	4585227	4585227	0	389612.9	0	2.401988	0.099394	0.288133	2.789515	0.005274	0	0.000217	0.005492	0.010109
San Bernar	2024	SBUS	Aggregate	Aggregate	Diesel	373.2941	2533366	2533366	0	1767533	0	22.37491	4.268373	0.502989	27.14628	0.126933	0.005116	0	0.132049	0.008378
San Bernar	2024	SBUS	Aggregate	Aggregate	Electricity	2.2132	18416.71	0	18416.71	8957.6	21295.26	0	0	0	0	0	0	0	0	5.34E-05
San Bernar	2024	SBUS	Aggregate	Aggregate	Natural Ga	398.76	3273431	3273431	0	1888113	0	2.436986	0.743547	0	3.180534	0.014873	0.001968	0	0.016841	0.010825
San Bernar	2024	UBUS	Aggregate	Aggregate	Gasoline	54.72012	1718010	1718010	0	71573.92	0	0.076281	0	0.032335	0.108616	0.002001	0	1.63E-05	0.002017	0.00391
San Bernar	2024	UBUS	Aggregate	Aggregate	Diesel	4.556959	147096.8	147096.8	0	5960.502	0	0.036723	0	0	0.036723	0.000478	0	0	0.000478	0.000646
San Bernar	2024	UBUS	Aggregate	Aggregate	Electricity	7.328345	363414.4	0	363414.4	9585.475	711016.4	0	0	0	0	0	0	0	0	0.003528
San Bernar	2024	UBUS	Aggregate	Aggregate	Natural Ga	243.3602	10891849	10891849	0	318315.2	0	5.489735	0	0	5.489735	0.021206	0	0	0.021206	0.095691

PM2.5_PM	PM2.5_TO	PM10_RUI	PM10_IDLI	PM10_STR	PM10_TOT	PM10_PM	PM10_PM	PM10_TOT	CO2_RUNI	CO2_IDLE	CO2_STRE	CO2_TOTE	CH4_RUNE	CH4_IDLE	CH4_STRE	CH4_TOTE	N2O_RUNI	N2O_IDLE	N2O_STRE	N2O_TOTE
0.002367	0.003113	0.000323	0	9.5E-05	0.000418	0.001447	0.006764	0.008628	164.3557	0	2.123951	166.4796	0.026396	0	2.94E-06	0.026399	0.021521	0	0.001	0.022521
16.12336	37.59503	16.70106	0.162653	0	16.86372	21.34989	46.06674	84.28035	970930.7	58995.88	0	1029927	0.370982	1.161846	0	1.532828	152.9705	9.294826	0	162.2654
0.023903	0.038223	0	0	0	0	0.057278	0.068296	0.125573	0	0	0	0	0	0	0	0	0	0	0	0
3.408404	4.012737	0.10839	0.009086	0	0.117476	1.98527	9.738298	11.84104	62723.79	6491.394	0	69215.18	100.3751	17.18757	0	117.5626	12.78665	1.323313	0	14.10997
19.93829	46.06019	9.917793	0	1.712365	11.63016	61.71359	56.96655	130.3103	2174339	0	56776.41	2231115	17.87987	0	55.53018	73.41005	35.05001	0	26.77632	61.82633
0.037859	0.276695	0.2195	0	0	0.2195	0.115326	0.108169	0.442994	3410.896	0	0	3410.896	0.016316	0	0	0.016316	0.537388	0	0	0.537388
0.538946	1.244402	0	0	0	0	2.821824	1.539846	4.36167	0	0	0	0	0	0	0	0	0	0	0	0
0.332009	1.011905	0.161935	0	0.04355	0.205484	1.963844	0.948597	3.117926	33587.65	0	1280.912	34868.56	0.105448	0	0.807873	0.913321	0.139618	0	0.415206	0.554824
1.676954	4.087262	1.208739	0	0.237493	1.446232	4.32208	4.791296	10.55961	183525.8	0	6065.672	189591.5	4.97334	0	8.624823	13.59816	6.954863	0	2.86634	9.821203
0.000213	0.01438	0.014681	0	0	0.014681	0.000486	0.000609	0.015776	25.41419	0	0	25.41419	0.000846	0	0	0.000846	0.004004	0	0	0.004004
0.001604	0.003703	0	0	0	0	0.008397	0.004583	0.01298	0	0	0	0	0	0	0	0	0	0	0	0
0.001387	0.003905	0.000406	0	0.000123	0.000529	0.008125	0.003964	0.012617	125.4963	0	5.660906	131.1572	0.000388	0	0.003305	0.003694	0.000508	0	0.00168	0.002188
8.960381	19.35392	3.969246	0	0.722777	4.692023	24.31753	25.60109	54.61064	1050349	0	29923.32	1080273	9.433899	0	27.89501	37.32891	18.81791	0	12.75485	31.57277
0.025457	0.086629	0.045323	0	0	0.045323	0.071237	0.072735	0.189295	2727.933	0	0	2727.933	0.005265	0	0	0.005265	0.429787	0	0	0.429787
0.02523	0.058311	0	0	0	0	0.132323	0.072087	0.204409	0	0	0	0	0	0	0	0	0	0	0	0
0.041144	0.119439	0.014925	0	0.004438	0.019363	0.241967	0.117553	0.378883	3898.822	0	189.4999	4088.322	0.012083	0	0.10189	0.113973	0.015832	0	0.051832	0.067664
6.27386	7.015033	0.27303	0	0.033181	0.306211	1.838494	17.92531	20.07002	142426.4	741.9489	2367.143	145535.5	1.292743	0.721298	3.126385	5.140425	2.334613	0.018739	4.706435	7.059787
4.288056	8.929554	4.24597	0.112874	0	4.358844	1.88486	12.25159	18.49529	77017.64	546.191	0	77563.83	0.786213	0.020916	0	0.807129	12.13416	0.086053	0	12.22021
0.0193	0.022127	0	0	0	0	0.011311	0.055142	0.066453	0	0	0	0	0	0	0	0	0	0	0	0
1.177249	1.288896	0.03701	0	0.004016	0.041026	0.295698	3.36357	3.700294	25890.94	144.6039	394.8649	26430.41	0.120774	0.122877	0.515062	0.758712	0.353233	0.003151	0.789887	1.146272
2.143018	3.997969	1.679914	0.047928	0	1.727842	0.807417	6.122909	8.658168	39395.47	370.2768	0	39765.75	0.304029	0.008868	0	0.312897	6.206773	0.058337	0	6.26511
0.005522	0.006215	0	0	0	0	0.002774	0.015776	0.01855	0	0	0	0	0	0	0	0	0	0	0	0
0.198701	0.377469	0.088252	0	0.052039	0.140292	0.189239	0.567717	0.897248	8919.071	0	776.5363	9695.607	8.053281	0	2.814833	10.86811	1.894786	0	0.130168	2.024954
6.787179	14.57234	3.035761	0	0.579985	3.615746	17.84199	19.39194	40.84967	948758.7	0	27888.36	976647.1	10.1034	0	27.78478	37.88818	19.09593	0	11.09654	30.19246
0.090552	0.391881	0.253051	0	0	0.253051	0.2369	0.258719	0.74867	12643.65	0	0	12643.65	0.021555	0	0	0.021555	1.992012	0	0	1.992012
0.027915	0.064521	0	0	0	0	0.146423	0.079757	0.22618	0	0	0	0	0	0	0	0	0	0	0	0
0.026882	0.081153	0.012399	0	0.003545	0.015943	0.158448	0.076805	0.251196	2625.055	0	153.29	2778.345	0.008184	0	0.066077	0.074261	0.010773	0	0.033775	0.044548
0.162049	0.206543	0.012808	0	4.66E-05	0.012855	0.130698	0.462997	0.60655	19175.61	0	3.830248	19179.44	0.118366	0	0.00458	0.122946	0.254045	0	0.005631	0.259676
0.064559	0.611173	0.553142	0	0	0.553142	0.069602	0.184455	0.807199	4319.221	0	0	4319.221	0.014272	0	0	0.014272	0.680495	0	0	0.680495
0.42044	0.53551	0.027539	0	0.005411	0.03295	0.339098	1.201256	1.573304	45920.19	285.8021	483.885	46689.88	0.307312	0.137451	0.493698	0.938461	0.603331	0.003969	0.346957	0.954257
3.330716	6.292042	2.291223	0.102421	0	2.393644	2.684919	9.516333	14.5949	242518.6	11253.88	0	253772.4	0.149009	0.052072	0	0.201081	38.2089	1.773053	0	39.98195
0.00605	0.00849	0	0	0	0	0.009757	0.017287	0.027044	0	0	0	0	0	0	0	0	0	0	0	0
0.048597	0.061913	0.002568	0.001251	0	0.003819	0.039218	0.138847	0.181884	2613.593	352.4242	0	2966.018	1.52778	1.195068	0	2.722848	0.532798	0.071844	0	0.604642
0.086973	0.109527	0.005054	0	0.000886	0.00594	0.068372	0.248494	0.322806	9464.426	50.56406	83.1614	9598.151	0.060737	0.026089	0.092815	0.17964	0.120193	0.000718	0.080312	0.201223
0.103485	0.32753	0.216984	0.001853	0	0.218837	0.058698	0.295672	0.573207	6537.223	180.1983	0	6717.421	0.016643	0.002936	0	0.019579	1.029942	0.02839	0	1.058332
0.000179	0.00025	0	0	0	0	0.000282	0.000513	0.000795	0	0	0	0	0	0	0	0	0	0	0	0
0.009795	0.012244	0.000528	4.27E-05	0	0.00057	0.0077	0.027985	0.036255	562.6407	13.10991	0	575.7506	0.34176	0.045694	0	0.387454	0.114698	0.002673	0	0.117371
0.08287	0.09847	0.005736	0	0.000236	0.005973	0.040435	0.236771	0.283179	4545.378	280.3361	24.32992	4850.044	0.063907	0.262585	0.03057	0.357063	0.132838	0.009191	0.026251	0.16828
0.045786	0.186213	0.132672	0.005347	0	0.13802	0.033511	0.130817	0.302348	3543.42	309.1123	0	3852.532	0.018302	0.001031	0	0.019333	0.558267	0.048701	0	0.606968
0.000166	0.00022	0	0	0	0	0.000213	0.000475	0.000689	0	0	0	0	0	0	0	0	0	0	0	0
0.059161	0.086827	0.016176	0.00214	0	0.018316	0.0433	0.169033	0.230649	5993.446	613.4854	0	6606.932	15.3027	2.019246	0	17.32195	1.221803	0.125063	0	1.346866
0.061132	0.067059	0.002176	0	1.77E-05	0.002194	0.01564	0.174662	0.192496	1257.027	0	3.38859	1260.415	0.001784	0	0.003491	0.005275	0.009915	0	0.004736	0.01465
0.006237	0.007361	0.0005	0	0	0.0005	0.002585	0.01782	0.020904	159.1218	0	0	159.1218	0.000331	0	0	0.000331	0.02507	0	0	0.02507
0.007711	0.011239	0	0	0	0	0.014111	0.022032	0.036143	0	0	0	0	0	0	0	0	0	0	0	0
0.450795	0.567692	0.022165	0	0	0.022165	0.382763	1.287986	1.692914	22105.13	0	0	22105.13	28.90501	0	0	28.90501	4.506274	0	0	4.506274

ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_TOTE	ROG_DIUR	ROG_HOTS	ROG_RUNI	ROG_TOTA	TOG_RUNI	TOG_IDLE	TOG_STRE	TOG_TOTE	TOG_DIUR	TOG_HOTS	TOG_RUNI	TOG_TOTA	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNE
0.169154	0	1.52E-05	0.169169	0.024462	0.00609	0.053879	0.253601	0.246829	0	1.66E-05	0.246845	0.024462	0.00609	0.053879	0.331277	8.807836	0	0.111	8.918836	0.001625
7.987134	25.01423	0	33.00136	0	0	0	33.00136	9.092744	28.47679	0	37.56954	0	0	0	37.56954	39.65122	364.2886	0	403.9399	9.194133
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.378714	0.297585	0	2.676299	0	0	0	2.676299	103.5163	17.60043	0	121.1167	0	0	0	121.1167	500.8074	56.0731	0	556.8805	0
65.84704	0	245.1067	310.9538	271.5089	73.20481	182.0654	837.733	96.08385	0	268.361	364.4449	271.5089	73.20481	182.0654	891.2241	5832.734	0	2397.481	8230.215	21.49556
0.351279	0	0	0.351279	0	0	0	0.351279	0.399908	0	0	0.399908	0	0	0	0.399908	4.406783	0	0	4.406783	0.03232
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.325976	0	3.209951	3.535927	2.519429	0.832723	0.751136	7.639215	0.475663	0	3.514493	3.990156	2.519429	0.832723	0.751136	8.093443	54.67877	0	24.43141	79.11019	0.332048
22.27842	0	45.76136	68.03979	65.00121	15.75473	46.85137	195.6471	32.50489	0	50.10288	82.60777	65.00121	15.75473	46.85137	210.2151	1075.004	0	431.5322	1506.537	1.81434
0.01822	0	0	0.01822	0	0	0	0.01822	0.020743	0	0	0.020743	0	0	0	0.020743	0.116107	0	0	0.116107	0.000241
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001216	0	0.013299	0.014515	0.006145	0.002012	0.001737	0.02441	0.001774	0	0.014561	0.016335	0.006145	0.002012	0.001737	0.02623	0.205085	0	0.101222	0.306307	0.001241
36.82045	0	127.8042	164.6247	119.3109	29.8322	81.25467	395.0225	53.72553	0	139.9295	193.655	119.3109	29.8322	81.25467	424.0528	2769.242	0	1206.292	3975.534	10.38377
0.113349	0	0	0.113349	0	0	0	0.113349	0.12904	0	0	0.12904	0	0	0	0.12904	1.053881	0	0	1.053881	0.025849
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.037792	0	0.409479	0.447271	0.21007	0.065865	0.059651	0.782857	0.055147	0	0.448328	0.503474	0.21007	0.065865	0.059651	0.83906	6.363614	0	3.116602	9.480216	0.038544
6.453052	2.623951	15.31016	24.38716	20.71308	4.835095	27.01348	76.94882	9.416278	3.828863	16.7627	30.00784	20.71308	4.835095	27.01348	82.5695	260.5389	23.24191	275.1471	558.9278	1.40803
16.9267	0.450316	0	17.37701	0	0	0	17.37701	19.26992	0.512655	0	19.78257	0	0	0	19.78257	53.0289	3.732449	0	56.76135	0.729781
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.551551	0.445318	2.495282	3.49215	3.101839	0.720843	3.821745	11.13658	0.804821	0.649807	2.732019	4.186648	3.101839	0.720843	3.821745	11.83107	28.34711	3.913167	45.07109	77.33137	0.255958
6.545576	0.190915	0	6.736491	0	0	0	6.736491	7.451703	0.217344	0	7.669047	0	0	0	7.669047	17.6054	1.582402	0	19.1878	0.373292
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53.03532	0	20.79274	73.82805	39.83373	57.05191	60.09122	230.8049	63.51685	0	22.60441	86.12126	39.83373	57.05191	60.09122	243.0981	631.7582	0	122.4619	754.2201	0.088174
42.22544	0	138.9064	181.1318	122.5615	29.21362	86.09177	418.9987	61.57929	0	152.0846	213.6639	122.5615	29.21362	86.09177	451.5308	2512.121	0	1035.116	3547.238	9.379446
0.464064	0	0	0.464064	0	0	0	0.464064	0.528306	0	0	0.528306	0	0	0	0.528306	7.46929	0	0	7.46929	0.119805
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.025462	0	0.264154	0.289616	0.157716	0.05101	0.044794	0.543136	0.037154	0	0.289215	0.326369	0.157716	0.05101	0.044794	0.579889	4.278807	0	2.010515	6.289322	0.025951
0.499091	0	0.018326	0.517417	6.02378	1.437919	0.032707	8.011823	0.728272	0	0.020065	0.748337	6.02378	1.437919	0.032707	8.242743	14.56968	0	0.398474	14.96815	0.18957
0.307276	0	0	0.307276	0	0	0	0.307276	0.349813	0	0	0.349813	0	0	0	0.349813	1.378021	0	0	1.378021	0.040927
1.494315	0.527661	2.665909	4.687886	1.732351	0.373716	2.950649	9.744602	2.180502	0.769962	2.918835	5.869299	1.732351	0.373716	2.950649	10.92602	38.80125	7.555727	56.48075	102.8377	0.453968
3.208133	1.121091	0	4.329223	0	0	0	4.329223	3.652215	1.276276	0	4.928491	0	0	0	4.928491	14.01081	38.15363	0	52.16444	2.296506
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.021829	0.017075	0	0.038904	0	0	0	0.038904	1.559211	1.219655	0	2.778866	0	0	0	2.778866	6.610848	2.182609	0	8.793458	0
0.298329	0.09889	0.490656	0.887874	0.459982	0.102062	0.467191	1.917108	0.435321	0.1443	0.537206	1.116827	0.459982	0.102062	0.467191	2.146061	7.779226	0.766311	9.986178	18.53171	0.093565
0.358319	0.063202	0	0.421522	0	0	0	0.421522	0.407919	0.071951	0	0.47987	0	0	0	0.47987	1.227459	0.946042	0	2.1735	0.061904
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004883	0.000653	0	0.005536	0	0	0	0.005536	0.348791	0.046634	0	0.395425	0	0	0	0.395425	1.55565	0.073312	0	1.628961	0
0.316939	1.141302	0.175189	1.63343	0.24923	0.054663	0.142871	2.080194	0.462477	1.665386	0.19181	2.319672	0.24923	0.054663	0.142871	2.766436	6.388062	8.822422	3.967685	19.17817	0.044936
0.394031	0.022202	0	0.416232	0	0	0	0.416232	0.448574	0.025275	0	0.473849	0	0	0	0.473849	0.940732	0.425522	0	1.366254	0.033554
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.218645	0.028851	0	0.247496	0	0	0	0.247496	15.61753	2.060788	0	17.67832	0	0	0	17.67832	50.60646	3.738563	0	54.34502	0
0.005028	0	0.012408	0.017436	0.008979	0.002207	0.007358	0.03598	0.007336	0	0.013586	0.020922	0.008979	0.002207	0.007358	0.039466	0.991143	0	0.486432	1.477576	0.012427
0.007127	0	0	0.007127	0	0	0	0.007127	0.008113	0	0	0.008113	0	0	0	0.008113	0.006767	0	0	0.006767	0.001508
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.494007	0	0	0.494007	0	0	0	0.494007	29.58813	0	0	29.58813	0	0	0	29.58813	403.8539	0	0	403.8539	0

SOx_IDLEX	SOx_STRE)	SOx_TOTE:	NH3_RUNI	Fuel Consumption
0	2.1E-05	0.001646	0.002778	17.55507
0.558656	0	9.752789	130.5873	92002.93
0	0	0	0	0
0	0	0	38.57561	8000.219
0	0.561293	22.05685	266.7237	235268.3
0	0	0.03232	0.044689	304.694
0	0	0	0	0
0	0.012663	0.344711	4.749089	3676.847
0	0.059965	1.874305	20.53448	19992.19
0	0	0.000241	0.000188	2.270239
0	0	0	0	0
0	5.6E-05	0.001297	0.019072	13.83037
0	0.295823	10.6796	111.1806	113913.4
0	0	0.025849	0.027604	243.6852
0	0	0	0	0
0	0.001873	0.040417	0.592046	431.1085
0.007335	0.023402	1.438766	10.31225	15346.53
0.005175	0	0.734957	25.83403	6928.746
0	0	0	0	0
0.00143	0.003904	0.261292	1.662775	2787.054
0.003509	0	0.376801	11.7962	3552.259
0	0	0	0	0
0	0.007677	0.095851	0.414544	1022.39
0	0.275705	9.655151	79.76031	102986.2
0	0	0.119805	0.091799	1129.452
0	0	0	0	0
0	0.001515	0.027467	0.399419	292.973
0	3.79E-05	0.189608	0.488896	2022.448
0	0	0.040927	0.574337	385.8343
0.002825	0.004784	0.461577	1.270958	4923.389
0.106567	0	2.403073	47.97325	22669.39
0	0	0	0	0
0	0	0	3.464216	342.8264
0.0005	0.000822	0.094887	0.256134	1012.113
0.001706	0	0.06361	1.021887	600.0646
0	0	0	0	0
0	0	0	0.680158	66.54798
0.002771	0.000241	0.047948	0.227446	511.4311
0.002927	0	0.036481	0.271743	344.1451
0	0	0	0	0
0	0	0	3.82484	763.6605
0	3.35E-05	0.01246	0.08522	132.9092
0	0	0.001508	0.035672	14.21429
0	0	0	0	0
0	0	0	11.64602	2555.015

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