

Appendix B

Air Quality and Greenhouse Gas Emissions Analysis Report

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Mr. Jim Alves, P.E.
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Subject: City of Modesto Municipal Groundwater Improvement Project Air Quality and Greenhouse Gas Emissions Assessment

Dear Mr. Alves:

HELIX Environmental Planning, Inc. (HELIX) assessed the air quality and greenhouse gas (GHG) emissions associated with the construction and operation of the proposed City of Modesto Municipal Groundwater Improvement Project (project). Analysis within this report was prepared to support impact analysis pursuant to the California Environmental Quality Act (Public Resources Code Sections 21000 et seq.), CEQA Guidelines (Title 14, Section 15000 et seq. of the California Code of Regulations).

PROJECT LOCATION

The proposed project is located in the City of Modesto (City), Stanislaus County, California. The five proposed managed aquifer recharge (MAR) basins would include: Merle Avenue MAR Basin Site; Well 65 MAR Basin Site; Ustach Park MAR Basin Site; La Coste Lane (LCL) Parcel 1 (P1) North MAR Basin Site; and LCL Parcel 2 (P2) South MAR Basin Site. The Merle Avenue MAR Basin, Well 65 MAR Basin, and Ustach Park MAR Basin are located within City limits. The La Coste Lane Parcel 1 North and Parcel 2 South MAR Basins are located outside City limits; however, the two basins are located within the City General Plan Boundary and Sphere of Influence (City 2019). The sites are located within Sections 11, 13, 14, and 19, Township 3 South, Range 9 and 10 East (Mount Diablo Base and Meridian, United States Geological Survey 7.5-minute "Riverbank Quadrangle"). Refer to Figure 1: *Regional Vicinity Map*, included in Attachment A to this report, for locations of all five MAR basins. The MAR basin site locations and their surrounding land uses are described below.

Merle Avenue MAR Basin Site

The proposed Merle Avenue MAR Basin Site is 5.50 acres and is located directly south of Merle Avenue on Assessor's Parcel Number (APN) 085-004-006. The site is an existing stormwater retention basin

adjacent to MID Moulton Lateral. The site is surrounded by single-family residential homes to the north, east, and west and single-family residential homes and the MID Moulton Lateral to the south.

Well 65 MAR Basin Site

The proposed Well 65 MAR Basin Site is 0.75 acre and is located directly south of Merle Avenue on APN 077-007-021. The site is an existing stormwater retention basin adjacent to MID Moulton Lateral. The site is surrounded by Orchard Elementary School and an existing water tank to the west, Orchard Elementary School and single-family residential homes to the north, single-family residential homes to the east, and commercial development, single-family residential homes, and the MID Moulton Lateral to the south.

Ustach Park MAR Basin Site

The Ustach Park MAR Basin Site is 3.00 acres and is located in the northeastern corner of the intersection of Kodiak Drive and Bear Club Lane on APN 077-009-053. The site is an existing stormwater retention basin. The site is surrounded by Ustach Park and single-family residential homes to the north, Ustach Middle School to the west, and single-family residential homes to the east and south.

La Coste Lane MAR Basin Sites

La Coste Lane Parcel 1 North

The LCL P1 North MAR Basin Site is 12.00 acres and is located north of La Coste Lane and west of Frazine Road, on APN 014-037-056. The site is comprised of fallowed agricultural lands that were formerly irrigated with water from MID Lateral Two. The site is surrounded by single-family residential homes and agricultural fields to the north and east, the existing LCL Tank and booster pump station and open space to the west, and Alice Stroud Elementary School and open space to the south.

La Coste Lane Parcel 2 South

The LCL P2 South MAR Basin Site is 7.00 acres and is located south of La Coste Lane, east of Norseman Drive, and north of Garst Road, on APN 014-037-063. The site is comprised of fallowed agricultural lands that were formerly irrigated with water from MID Lateral Two. The site is surrounded by the existing LCL Tank and booster pump station and open space to the north, agricultural fields to the west, Alice Stroud Elementary School to the east, and agricultural fields, Dan Gonsalves Stadium, and the MID Lateral Two to the south.

PROJECT DESCRIPTION

The proposed project would construct and operate five MAR basins in the City. The project would use clean surface water for the MAR basins to improve groundwater sustainability and resiliency. The MAR basins are expected to operate for 20 years (2025 through 2045). The basins' water conveyance structures are described in more detail below. See Figures 2 through 5 in Attachment A for site plans of the five MAR basins.

Merle Avenue MAR Basin Site

The Merle Avenue Site would include the construction of water conveyance to the basin by connecting a proposed 12-inch pipeline to an existing storm drain manhole located on the southeastern corner of the site. The proposed pipeline would begin at the existing storm drain manhole and move southeast along until it reaches a proposed canal turnout off the MID Moulton Lateral.

Well 65 MAR Basin Site

The Well 65 Site would include the construction of water conveyance to the basin by connecting a proposed 12-inch pipeline to an existing storm drain manhole located on the southeastern corner of the site. The proposed pipeline would at the existing storm drain manhole and move southeast until it reaches the proposed canal turnout off the MID Moulton Lateral.

Ustach Park MAR Basin Site

The Ustach Park Site would include the construction of water conveyance to the basin by connecting a proposed 12-inch pipeline to an existing outfall structure located on the northeastern corner of the site. The proposed 12-inch diameter pipeline would begin at the existing outfall structure and move north along the eastern boundary of Ustach Park until it reaches Hillglen Avenue. The pipeline would then move east along Hillglen Avenue until it reaches Roselle Avenue. The pipeline would then move north along Roselle Avenue until it reaches the proposed pump station located in the northwestern corner of the intersection of Roselle Avenue and Sylvan Avenue. The proposed pump station would deliver water from the existing MID pipeline to the Ustach Park MAR Basin.

La Coste Lane MAR Basin Site

Parcel 1 North

The LCL P1 North Site would include the construction of water conveyance to the basin by connecting a proposed above ground, 12-inch pipeline to a proposed outfall structure located on the southwestern corner of the site. The proposed pipeline would begin at the proposed outfall structure and move southwest until it reaches the proposed turnout and pump station off MID Lateral Two. The pump station would deliver water from the MID Lateral Two.

Parcel 2 South

The LCL P2 South Site would include the construction of a water conveyance to the basin by connecting a proposed above ground, 12-inch pipeline to a proposed outfall structure located on the southeastern corner of the site. The proposed pipeline would begin at the proposed outfall structure, and move south until it reaches the proposed turnout and pump station off the MID Lateral Two. The pump station would deliver water from the MID Lateral Two.

AIR QUALITY/GREENHOUSE GAS EMISSIONS ANALYSIS

The City of Modesto lies within the San Joaquin Valley Air Basin (SJVAB). The San Joaquin Valley Air Pollution Control District (SJVAPCD) is responsible for implementing emissions standards and other requirements of federal and State laws in the project area. As required by the California Clean Air Act

(CCAA), SJVAPCD has published various air quality planning documents, as discussed below, to address requirements to bring the SJVAB into compliance with the federal and state ambient air quality standards. The Air Quality Attainment Plans are incorporated into the State Implementation Plan (SIP), which is subsequently submitted to the U.S. Environmental Protection Agency (EPA), the federal agency that administers the Federal Clean Air Act of 1970, as amended in 1990.

The air pollution potential of the San Joaquin Valley is very high. The San Joaquin Valley has one of the most severe air pollution problems in the State and the Country. Surrounding elevated terrain in conjunction with temperature inversions frequently restrict lateral and vertical dilution of pollutants. Abundant sunshine and warm temperatures in late spring, summer, and early fall are ideal conditions for the formation of ozone, where San Joaquin Valley frequently experiences unhealthy air pollution days. Low wind speeds, combined with low inversion layers in the winter, create a climate conducive to high PM₁₀ concentrations (City 2018).

Regulatory Setting

Air Quality

Criteria Pollutants

Criteria pollutants are defined and regulated by State and federal law as a risk to the health and welfare of the public and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources, including carbon monoxide (CO); reactive organic gases (ROGs), also known as volatile organic compounds (VOCs); nitrogen oxides (NO_x); sulfur dioxide (SO₂); coarse particulate matter (PM₁₀); fine particulate matter (PM_{2.5}); and lead. Of these primary pollutants, CO, SO₂, PM₁₀, PM_{2.5}, and lead are criteria pollutants. ROGs and NO_x are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. The principal secondary criteria pollutants are ozone (O₃) and nitrogen dioxide (NO₂).

Ambient air quality is described in terms of compliance with State and national standards, and the levels of air pollutant concentrations considered safe, to protect the public health and welfare. These standards are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. The USEPA has established national ambient air quality standards (NAAQS) for criteria pollutants. As permitted by the Clean Air Act (CAA), California has adopted the more stringent California ambient air quality standards (CAAQS) and expanded the number of regulated air pollutant constituents.

The California Air Resources Board (CARB) is required to designate areas of the State as attainment, nonattainment, or unclassified for any State standard. An “attainment” designation for an area signifies that pollutant concentrations do not violate the standard for that pollutant in that area. A “nonattainment” designation indicates that a pollutant concentration violated the standard at least once. The project site is located within the SJVAB and, as such, is in an area designated as “nonattainment” for certain pollutants that are regulated under the CAA. Table 1, *San Joaquin Valley Air Basin – Attainment Status*, lists the federal and State attainment status of the SJVAB for the criteria pollutants. As shown in Table 1, the SJVAB is designated as attainment for PM₁₀; attainment/unclassified for CO, NO₂, SO₂; no designation/classification for lead; and in nonattainment for 8-hour ozone and PM_{2.5}.

with respect to federal air quality standards. The SJVAB is designated as nonattainment for 1-hour and 8-hour ozone, PM_{2.5}, and PM₁₀ with respect to State air quality standards (SJVAPCD 2012).

Table 1
SAN JOAQUIN VALLEY AIR BASIN – ATTAINMENT STATUS

Pollutant	Federal Standards	State Standards
Ozone – One hour	No Federal Standard	Nonattainment/Severe
Ozone – Eight hour	Nonattainment/Extreme	Nonattainment
PM 10	Attainment	Nonattainment
PM 2.5	Nonattainment	Nonattainment
Carbon Monoxide	Attainment/Unclassified	Attainment/Unclassified
Nitrogen Dioxide	Attainment/Unclassified	Attainment
Sulfur Dioxide	Attainment/Unclassified	Attainment
Lead (Particulate)	No Designation/Unclassified	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility Reducing Particles	No Federal Standard	Unclassified
Vinyl Chloride	No Federal Standard	Attainment

Source: SJVAPCD 2012

The SJVAPCD has developed plans to attain State and Federal standards for ozone and particulate matter. The SJVAPCD's air quality plans include control measures to reduce emissions and emissions inventories to measure the sources of air pollutants (and to evaluate how well different control methods have worked). In June 2016, the SJVAPCD adopted the *2016 Plan for the 2008 8-Hour Ozone Standard* to map strategies for attainment of the updated NAAQS 8-hour ozone standard (SJVAPCD 2016). In November 2018, the SJVAPCD adopted the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* to address the federal standards for each of those years (SJVAPCD 2018).

Toxic Air Contaminants

Toxic air contaminants (TAC) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs can cause long-term chronic health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. TACs are considered either carcinogenic or noncarcinogenic based on the nature of the health effects associated with exposure to the pollutant. For carcinogenic TACs, there is no level of exposure that is considered safe, and impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Noncarcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

The Health and Safety Code (§39655[a]) defines TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” All substances that are listed as hazardous air pollutants pursuant to subsection (b) of Section 112 of the CAA (42 United States Code Sec. 7412[b]) are designated as TACs. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify

a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel Particulate Matter

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2023). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California's population—it is estimated that about 70 percent of the total known cancer risk related to air toxics in California is attributable to DPM (CARB 2023).

Greenhouse Gases

Global climate change refers to changes in average climatic conditions on Earth, including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; deforestation; agricultural activity; and solid waste decomposition.

The GHGs defined under California's Assembly Bill (AB) 32, described below, include carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. Estimates of GHG emissions are commonly presented in carbon dioxide equivalents (CO₂e), which weigh each gas by its global warming potential (GWP). Expressing GHG emissions in CO₂e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted. GHG emissions quantities in this analysis are presented in metric tons (MT) of CO₂e. For consistency with United Nations Standards, modeling, and reporting of GHGs in California and the U.S. use the GWPs defined in the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (IPCC 2007): CO₂ = 1; CH₄ = 25; N₂O = 298.

GHG Reduction Regulations and Plans

The primary GHG reduction regulatory legislation and plans (applicable to the project) at the State and levels are described below. Implementation of California's GHG reduction mandates is primarily under the authority of CARB at the State level, and under the authority of the SJVAPCD at the regional level.

Executive Order S-3-05: On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack

in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050. Executive Orders are not laws and can only provide the governor's direction to State agencies to act within their authority to reinforce existing laws.

Assembly Bill 32 – Global Warming Solution Act of 2006: The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of Statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

Executive Order B-30-15: On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28-nation European Union. California is on track to meet or exceed the target of reducing GHGs emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions to 80 percent under 1990 levels by 2050.

Senate Bill 32: Signed into law by Governor Brown on September 8, 2016, Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a Statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

Senate Bill 100: Approved by Governor Brown on September 10, 2018, SB 100 requires that all retail sales of electricity to California end-use customers be procured from 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

Assembly Bill 1279: Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO₂ from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

California Air Resources Board Scoping Plan: The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across our society and economy to reduce emissions and reach our climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives,

regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030. On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022).

San Joaquin Valley Air Pollution Control District: In December 2009, the SJVAPCD adopted the following guidance documents applicable to the project:

- Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA (SJVAPCD 2009a), and
- District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency (SJVAPCD 2009b).

This guidance and policy are the documents referenced in the SJVAPCD's *Guidance for Assessing and Mitigating Air Quality Impacts*, adopted in March 2015 (SJVAPCD 2015a). Consistent with the District Guidance and District Policy above, SJVAPCD acknowledges the current absence of numerical thresholds, and recommends a tiered approach to establish the significance of the GHG impacts on the environment:

1. If a project complies with an approved GHG emission reduction plan or GHG mitigation program which avoids or substantially reduces GHG emissions within the geographic area in which the project is located, then the project would be determined to have a less than significant individual and cumulative impact for GHG emissions;
2. If a project does not comply with an approved GHG emission reduction plan or mitigation program, then it would be required to implement best performance standards (BPS); and
3. If a project is not implementing BPS, then it should demonstrate that its GHG emissions would be reduced or mitigated by at least 29 percent, compared to business-as-usual.

The SJVAPCD adopted a Climate Change Action Plan (CAP) in 2008 and issued guidance for development project compliance with the plan in 2009. The guidance adopted an approach that relies on the use of BPS to reduce GHG emissions. Projects implementing BPS would be determined to have a less than cumulatively significant impact. For projects not implementing BPS, demonstration of a 29 percent reduction in project-specific (i.e., operational) GHG emissions from business-as-usual conditions is required to determine that a project would have a less than cumulatively significant impact (SJVAPCD 2009a). Both the SJVAPCD CAP and the guidance for development project compliance are limited to

achieving the State 2020 GHG reduction goals mandated by AB 32. The SJVAPCD CAP and the guidance for development project compliance do not address California's post-2020 GHG reduction goals. Neither the City of Modesto nor Stanislaus County currently has a CAP or other GHG reduction plan which addresses post-2020 GHG reductions mandated by SB 32 and AB 1279.

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015).

Residential areas are considered sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children and infants are considered more susceptible to health effects of air pollution due to their immature immune systems, developing organs, and higher breathing rates. As such, schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities.

The closest existing residential sensitive receptors to the Merle Avenue MAR Basin Site are single-family residential homes located 120 feet east and 100 feet west of the site. The closest existing sensitive receptors to the Well 65 MAR Basin Site are single-family residential homes located 25 feet east of the site and Orchard Elementary School located approximately 300 feet northwest of the site. The closest existing sensitive receptors to the Ustach Park MAR Basin Site are single-family residential homes located 25 feet east and 125 feet south of the site. The closest existing sensitive receptors to the LCL Parcel 1 North and LCL Parcel 2 South MAR Basin Sites are single-family residential homes located 50 feet east of the LCL Parcel 1 North MAR Basin Site and 650 feet northwest of the LCL Parcel 2 South MAR Basin Site.

The nearest school to the Merle Avenue MAR Basin Site is Savage Middle School located approximately 1,500 feet northeast of the site. The nearest school to the Well 65 MAR Basin Site is Orchard Elementary School located approximately 300 feet northwest of the site. The nearest school to the Ustach Park MAR Basin Site is Ustach Middle School, located approximately 150 feet west of the site. The nearest school to the LCL P1 North MAR Basin Site and the LCL P2 South MAR Basin Site is Alice Stroud Elementary School, located approximately 150 feet directly south of the LCL P1 North MAR Basin Site and 25 feet east of the LCL P2 South MAR Basin Site.

METHODOLOGY AND ASSUMPTIONS

Criteria pollutant and precursor emissions, and GHG emissions for the project construction activities and long-term operation were calculated using the California Emissions Estimator Model (CalEEMod), Version 2022.1.1.12. CalEEMod is a Statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant emissions associated with both construction and operations from a

variety of land use projects. The model was developed for the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air districts. CalEEMod allows for the use of default data (e.g., emission factors, trip lengths, meteorology, source inventory) provided by the various California air districts to account for local requirements and conditions, and/or user-defined inputs. The model calculates emissions of criteria pollutants, ozone precursors, and GHGs, including PM₁₀, PM_{2.5}, ROGs, NO_x, and CO_{2e}. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, C, and D (CAPCOA 2022). The input data and subsequent construction and operation emission estimates for the proposed project are discussed below. The CalEEMod output files are included in Attachment B to this report.

Construction Assumptions

Construction of the proposed MAR basins is anticipated to begin as early as December 2023 and be completed in May 2024. Construction modeling assumes the longest anticipated schedule reported by the project applicant for the following MAR basins:

- Merle Avenue MAR Basin: demolition 5 days; site preparation 5 days; paving 5 days; and trenching (underground utilities) 10 days.
- Well 65 MAR Basin: demolition 5 days; site preparation 5 days; paving 5 days; and trenching (underground utilities) 10 days.
- Ustach Park MAR Basin: demolition 3 days; site preparation 5 days; paving 3 days; and trenching (underground utilities) 10 days.
- La Coste Lane Parcel 1 North and La Coste Lane Parcel 2 South: demolition 10 days; site preparation 10 days; grading 20 days; trenching (underground utilities) 25 days; and paving 10 days. Grading and trenching (underground utilities) would occur concurrently, and paving would begin directly after trenching (underground utilities) is complete.

Construction equipment assumptions for the proposed MAR basins were based on estimates from the project applicant and CalEEMod defaults. See Attachment B for a full list of equipment used during construction of each MAR basin. The estimated volume of vegetation that would either be exported off-site or spread on-site during site preparation and the number of dump truck loads that would remove debris during demolition were provided by the project engineer:

- Merle Avenue MAR Basin: An estimated 1,412 cubic yards (CY) of vegetation to be spread on-site, and an estimated 1,412 CY of vegetation to be exported to a wastewater treatment plant (WWTP) approximately 15 miles off-site. Additionally, approximately 109 truckloads (or 218 one-way trips) of other cleared materials would be exported during site preparation, and approximately one truckload of demolition debris would be hauled off-site during demolition.
- Well 65 MAR Basin: An estimated 101 CY of vegetation to be spread on-site, and an estimated 101 CY of vegetation to be exported to a WWTP approximately 6.5 miles off-site. Additionally, approximately eight truckloads (or 16 one-way trips) of other cleared materials would be exported during preparation, and approximately two truckloads of demolition debris would be hauled off-site during demolition.

- Ustach Park MAR Basin: An estimated 645 CY of vegetation to be spread on-site, and an estimated 645 CY of vegetation to be exported to a WWTP approximately eight miles off-site. Additionally, approximately 50 truckloads (or 100 one-way trips) of other cleared materials would be exported during site preparation, and approximately 2 trucks of demolition debris would be hauled off-site during demolition.
- La Coste Lane Parcel 1 North and La Coste Lane Parcel 2 South MAR Basins: An estimated 3,429 CY of vegetation to be spread on-site, and an estimated 3,429 CY of vegetation to be exported to a WWTP approximately 8.5 miles off-site. Additionally, approximately 264 truckloads (or 528 one-way trips) of other cleared materials would be exported during site preparation, and approximately 82 trucks of demolition debris would be hauled off-site during demolition.

Construction of the LCL P1 North and LCL P2 South MAR Basins would require grading. During grading, approximately 43,000 CY of cut/fill is expected to be spread on-site and would not require any export of soil. In accordance with SJVAPCD Regulation VIII, *Fugitive PM₁₀ Prohibition*, Rule 8021, *Construction, Demolition, Excavation, Extraction, and other Earth Moving Activities*, fugitive dust control measures, including the use of an on-site water truck to wet down active grading areas and roads at least twice daily, are incorporated into the project design (SJVAPCD 2004).

Construction of the Ustach Park MAR Basin and the LCL P1 North and LCL P2 South MAR Basins would include the installation of pipelines along City streets and would therefore require paving repair. ROG emissions from asphalt repair and repainting of traffic lines were calculated using CalEEMod defaults.

Operational Assumptions

Operational tasks associated with the MAR basins would include operating the turnouts, pump stations, and meters at the applicable site, providing maintenance checks as needed, and seasonal vegetation management. Maintenance activities and vegetation management would be performed by existing City staff and were assumed to be similar to existing activities and would not result in new criteria pollutant or GHG emissions. Water provided for the MAR basins would be sourced from existing MID laterals and is not anticipated to result in new water/wastewater source GHG emissions over existing conditions. The only new operational emissions would be indirect GHG energy source emissions (resulting from electricity use) for the Ustach Park MAR Basin and the LCL P1 North and LCL P2 South MAR Basins, as these basins would require energy usage to operate new pump stations. The pump stations would be required to transport water from the MID laterals to the MAR basins. The Merle Avenue MAR Basin and Well 65 MAR Basin would not require construction of new pump stations, and therefore, operational energy source emissions were not calculated. Operational emissions resulting from energy use were based on estimates from the project engineer. Operational energy emissions assume the estimated electrical consumption for the following proposed MAR Basins:

- Ustach Park MAR Basin: The MAR basin would require 13,899 kilowatt hours (kWh) per year of electricity.
- La Coste Lane Parcel 1 North and La Coste Lane Parcel 2 South: The MAR basins would require 52,120 kWh per year of electricity.

STANDARDS OF SIGNIFICANCE

Air Quality

According to Appendix G of the State CEQA Guidelines, a project would have a significant air quality environmental impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan; or
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or State ambient air quality standard; or
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SJVAPCD has established significant thresholds to assess the impacts of project-related air pollutant emissions. The significance thresholds are updated, as needed, to appropriately represent the most current technical information and attainment status in the SJVAB. Table 2, *SJVAPCD Air Quality Significance Thresholds*, presents the most current significance thresholds, including thresholds for construction and operational emissions and maximum incremental cancer risk and hazard indices for TACs. A project with emission rates and risk values below these thresholds is generally considered to have a less than significant impact on air quality.

Table 2
SJVAPCD AIR QUALITY SIGNIFICANCE THRESHOLDS

Mass Daily Thresholds (tons per year)		
Pollutant	Construction	Operation
ROG	10	10
NO _x	10	10
CO	100	100
PM ₁₀	15	15
PM _{2.5}	15	15
SO _x	27	27
Toxic Air Contaminants		
TACs ¹	Maximum Incremental Cancer Risk ≥ 10 in 1 million Chronic & Acute Hazard Index ≥ 1.0 (project increment)	

Source: SJVAPCD 2015b

¹ TACs (carcinogenic and noncarcinogenic)

As set forth in the *SJVAPCD Guidance for Assessing and Mitigating Air Quality Impacts*, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. Impacts of local pollutants (CO, TACs) are cumulatively

significant when modeling shows that the combined emissions from the project and other existing and planned projects would exceed air quality standards.

Greenhouse Gas Emissions

Given the relatively small levels of emissions generated by a project in relationship to the total amount of GHG emissions generated on a national or global basis, individual projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the potential for a significant GHG impact is limited to cumulative impacts. According to Appendix G of the State CEQA Guidelines, the following criteria may be considered in establishing the significance of GHG emissions:

Would the project:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The SJVAPCD has adopted the guidance in *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the policy, *Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of Best Performance Standards (BPS) to assess the significance of project-specific GHG emissions on global climate change during the environmental review process. However, SJVAPCD's adopted BPS are specifically directed at reducing GHG emissions from stationary sources; therefore, the adopted BPS would not generally be applicable to the proposed project as construction of MAR basins would not be a stationary source of emissions. The SJVAPCD guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project-related impacts on global climate change.

In the event that a local air district's guidance for addressing GHG impacts does not use numerical GHG emissions thresholds, at the lead agency's discretion, GHG thresholds adopted by neighboring California air districts may be used to determine impacts. The Sacramento Metropolitan Air Quality Management District (SMAQMD) has adopted a GHG threshold of 1,100 MT CO₂e per year for a project's construction emissions and a threshold of 10,000 MT CO₂e per year for operational emissions for industrial/stationary source projects (SMAQMD 2021). Both of these thresholds are based on an analysis of a 90 percent emissions capture rate—ensuring that 90 percent of emissions would be subject to further review and analysis of potential alternatives and mitigation measures. These thresholds have been established by the SMAQMD in an effort to meet statewide GHG emissions reduction goals and the justification for these thresholds established by SMAQMD is applicable for evaluating the significance of project GHG emissions.

AIR QUALITY IMPACT ANALYSIS

(1) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. As discussed in Table 2, the SJVAPCD has established thresholds of significance for a project's criteria pollutant and precursor emissions for both temporary construction-related emissions and long-term operational-related emissions. According to the SJVAPCD, these significant thresholds have been established to assist lead agencies in determining whether a project may have a significant air quality impact. A project with emissions lower than the thresholds would not conflict with or obstruct implementation of the district's air quality plans for attainment of the applicable NAAQS and CAAQS (SJVAPCD 2015a). As discussed below, the project would not exceed the temporary construction-related or long-term operational-related thresholds of significance for criteria pollutants and precursor emissions. In addition, control measures in the air quality plans adopted by the SJVAPCD, including the *2016 Ozone Plan* and the *2018 Plan for the 1997, 2006, and 2012 PM_{2.5} Standards* are based in part on growth projections in local planning documents such as the County and City General Plans. The project would not require a change of General Plan land use designation and the project would not result in population or employment growth in the County or City. Therefore, the project would not conflict with or obstruct implementation of the applicable air quality plans and the impact would be less than significant.

(2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard?

Less than Significant Impact. The SJVAB is designated as attainment for PM₁₀; attainment/unclassified for CO, NO₂, SO₂; no designation/classification for lead; and in nonattainment for 8-hour ozone and PM_{2.5} with respect to federal air quality standards. The SJVAB is designated as nonattainment for 1-hour and 8-hour ozone, PM_{2.5}, and PM₁₀ with respect to State air quality standards. The project's emissions of these criteria pollutants and precursors during construction and operation are evaluated below.

Construction Emissions

CalEEMod was used to quantify project-generated construction emissions, as discussed in *Methodology and Assumptions*, above. The model output sheets are included in Attachment B. Construction of the proposed MAR basins is anticipated to begin as early as December 2023 and be completed in May 2024. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in CalEEMod; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

The project's construction period emissions of ROG, NO_x, PM₁₀, and PM_{2.5} are compared to the SJVAPCD construction thresholds in Table 3, *Construction Criteria Pollutant and Precursor Emissions*. Table 2, *SJVAPCD Air Quality Significance Thresholds*, presents the most current significance thresholds, including

thresholds for construction and operational emissions and maximum incremental cancer risk and hazard indices for TACs. As shown in Table 3, the proposed project's construction period emissions of ROG, NO_x, PM₁₀, and PM_{2.5} would not exceed the SJVAPCD thresholds. Impacts related to construction-generated emissions of ROG, NO_x, PM₁₀, and PM_{2.5} would be less than significant.

Table 3
CONSTRUCTION CRITERIA POLLUTANT AND PRECURSOR EMISSIONS

MAR Basin Sites	ROG (tons/year)	NO _x (tons/year)	PM ₁₀ (tons/year)	PM _{2.5} (tons/year)
Merle Avenue MAR Basin 2023	<0.1	0.1	<0.1	<0.1
Well 65 MAR Basin 2023	<0.1	0.1	<0.1	<0.1
Ustach Park MAR Basin 2023	<0.1	<0.1	<0.1	<0.1
LCL P1 North and P2 South MAR Basins 2023	<0.1	0.1	<0.1	<0.1
2023 Total	<0.1	0.4	0.1	<0.1
Merle Avenue MAR Basin 2024	<0.1	<0.1	<0.1	<0.1
Well 65 MAR Basin 2024	<0.1	<0.1	<0.1	<0.1
Ustach Park MAR Basin 2024	<0.1	<0.1	<0.1	<0.1
LCL P1 North and P2 South MAR Basins 2024	<0.1	0.4	<0.1	<0.1
2024 Total	0.1	0.4	<0.1	<0.1
SJVAPCD Thresholds	10	10	15	15
Exceed Thresholds?	No	No	No	No

Source: CalEEMod (output data is provided in Attachment B).

ROG = reactive organic gases; NO_x = nitrogen oxides; PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter.

Operational Emissions

As discussed in *Methodology and Assumptions*, above, the only new operational emissions would be energy source emissions from the Ustach Park MAR Basin and the LCL Parcel 1 North and LCL Parcel 2 South MAR Basins as these basins would require electricity to operate new pump stations. Criteria pollutant emissions from electricity use are limited to off-site emissions generated at the power plant(s) and are not included in the project's emissions inventory. GHG emissions resulting from project electricity use are discussed below.

The project's maximum daily construction or operational emissions would not exceed the SJVAPCD's thresholds. Therefore, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment, and the impact would be less than significant.

(3) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. As discussed in *Sensitive Receptors*, above, the closest sensitive receptor to each MAR basin site is: single-family residential homes located 100 feet west of the Merle Avenue MAR Basin Site; single-family residential homes located 25 feet east of the Well 65 MAR Basin Site; single-family residential homes located 25 feet east of the Ustach Park MAR Basin Site; single-family residential homes located 50 feet east of the LCL Parcel 1 North MAR Basin Site; and Alice Stroud Elementary School located 25 feet east of the LCL Parcel 2 South MAR Basin Site.

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has to the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long-duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). Construction of the proposed MAR basins is anticipated to take between one month and three months. In addition, concentrations of mobile source DPM emissions disperse rapidly and are typically reduced by 70 percent at approximately 500 feet (CARB 2005). Considering the short duration of project construction, the highly dispersive nature of DPM, and the fact that construction activities would occur at various locations in the City and on the project sites, it is not anticipated that construction of the project would expose sensitive receptors to substantial DPM concentrations.

Therefore, the project would not expose sensitive receptors to substantial pollutant concentrations, and the impact would be less than significant.

(4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. The project could produce odors during construction activities resulting from heavy diesel equipment exhaust and VOC released during application of asphalt. The odor of these emissions is objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not be at a level that would affect a substantial number of people. Any odors emitted during construction activities would be temporary, short-term, and intermittent in nature, and would cease upon the facility maintenance. As a result, impacts associated with temporary odors during construction are not considered significant.

The SJVAPCD has developed screening distances for common sources of operational odors, including Wastewater Treatment Facility; Sanitary Landfill; Transfer Station; Composting Facility; Petroleum Refinery; Asphalt Batch Plant; Chemical Manufacturing; Fiberglass Manufacturing; Painting/Coating Operations (e.g., auto body shops); Food Processing Facility; Feed Lot/Dairy; and Rendering Plant (SJVAPCD 2015a). As the project would consist of MAR basins, operation of the project would not result in odors affecting a substantial number of people.

Construction or operation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

GHG EMISSIONS IMPACT ANALYSIS

(1) *Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Less than Significant Impact. GHG emissions would be generated by the project during construction (vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips) and during long-term operation (energy use from the proposed pump stations).

GHG emissions were calculated using CalEEMod, as described in *Methodology and Assumptions*, above. The results of the construction GHG emissions calculations are compared to the SMAQMD threshold in Table 4, *Construction GHG Emissions*.

Table 4
CONSTRUCTION GHG EMISSIONS

Year of Emissions	Emissions (MT CO ₂ e)
2023 (All MAR basins)	82.3
2024 (All MAR basins)	87.8
SMAQMD Construction Threshold (per year)	1,100
Exceed Threshold?	No

Source: CalEEMod (output data is provided in Attachment B).

The results of the operational GHG emissions calculations are compared to the SMAQMD threshold in Table 5, *Operational GHG Emissions*.

Table 5
OPERATIONAL GHG EMISSIONS

Emission Sources	2025 Emissions (MT CO ₂ e per year)
Energy: Ustach Park MAR Basin	3.1
Energy: LCL P1 North and P2 South MAR Basins	11.6
Total	14.7
SMAQMD Operational Threshold	10,000
Exceed Threshold?	No

Source: CalEEMod (output data is provided in Attachment B).

GHG = greenhouse gas; MT = metric tons; CO₂e = carbon dioxide equivalent.

As shown in Table 4 and Table 5, the construction and operational GHG emissions would not exceed the SMAQMD construction GHG threshold or the SMAQMD industrial operational GHG threshold. Therefore, GHG emissions from the project would not be cumulatively considerable, and the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. The impact would be less than significant.

(2) *Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?*

Less than Significant Impact. There are numerous State plans, policies, and regulations adopted for the purpose of reducing GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 requires further reductions of 40 percent below 1990 levels by 2030. AB 1279 requires the State to achieve net zero GHG emissions no later than 2045. The mandates of AB 32, SB 32, and AB 1279 are implemented at the State level by the CARB's Scoping Plan. Because the project's operational year is post-2020, the project aims to reach the quantitative goals set by SB 32 and AB 1279. Statewide plans and regulations such as GHG emissions standards for vehicles and transportation fuels, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the Statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations. As noted in question '(1)' above, construction and operational GHG emissions would not exceed the GHG thresholds, and therefore, would not generate new GHG emissions. In addition, the project's only operational GHG emissions source would be from electricity use. As discussed in *Regulatory Setting*, SB 100 requires 100 percent of the electricity used in the state to be from renewable and zero-carbon resources by 2045. As a result, the project would not conflict with the GHG reduction objectives of the State's Scoping Plan, including net zero GHG emissions by 2045, mandated by AB 1279, or the SJVAPCD's Climate Change Action Plan. Therefore, the impact would be less than significant.

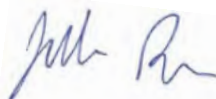
SUMMARY

As described above, emissions of criteria pollutants would be below SJVAPCD construction and operational thresholds. Sensitive receptors would not be exposed to substantial concentrations of TACs or odors. Additionally, GHG emissions would be below the SMAQMD construction threshold and the SMAQMD industrial operational threshold. Therefore, impacts to air quality and GHG emissions would be less than significant, and no mitigation measures would be required.

Sincerely,



Martin Rolph
Air Quality Specialist



Julia Pano
Environmental Planner

Attachments:

Attachment A: Figures
Attachment B: CalEEMod Output

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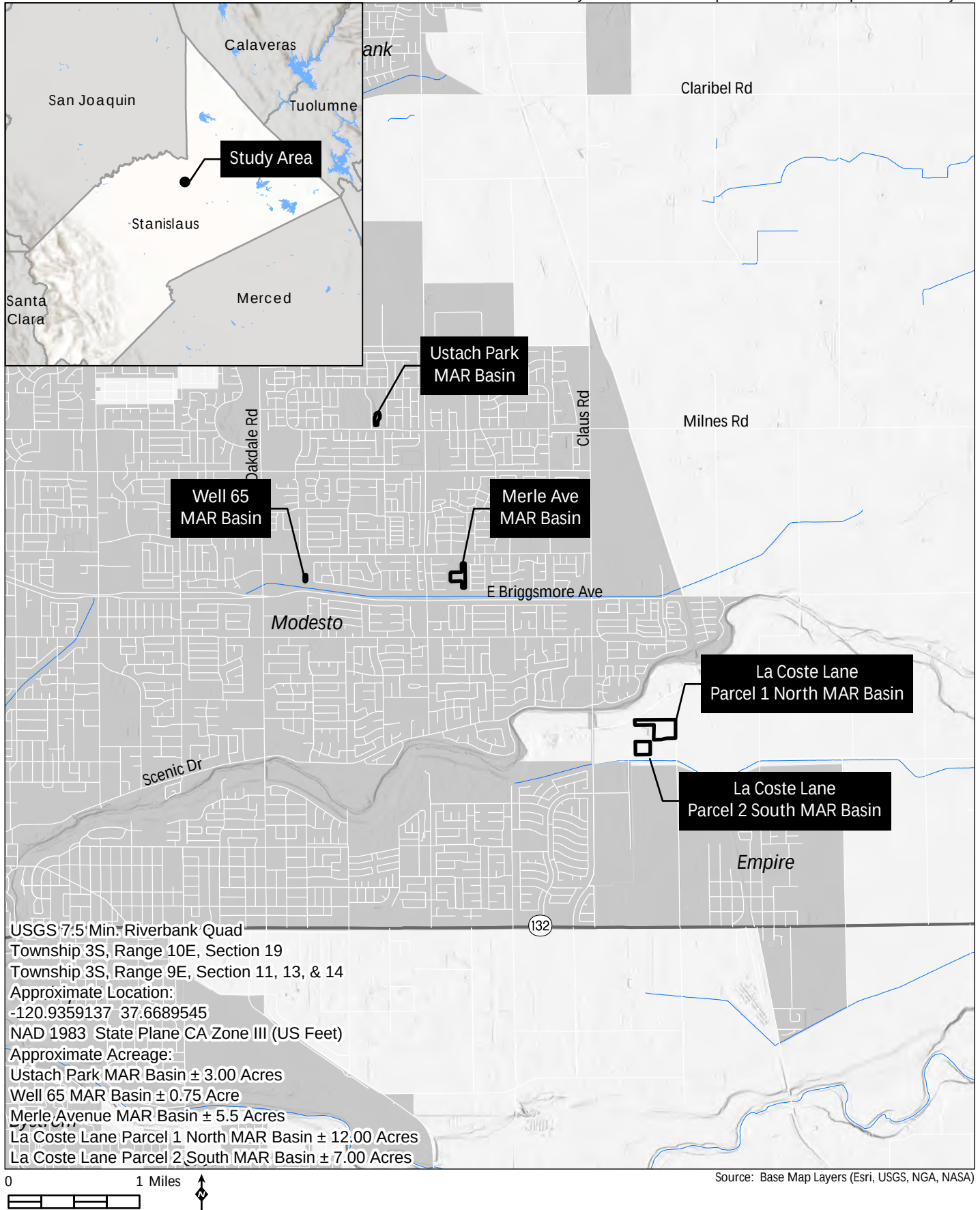
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Attachment A

Figures

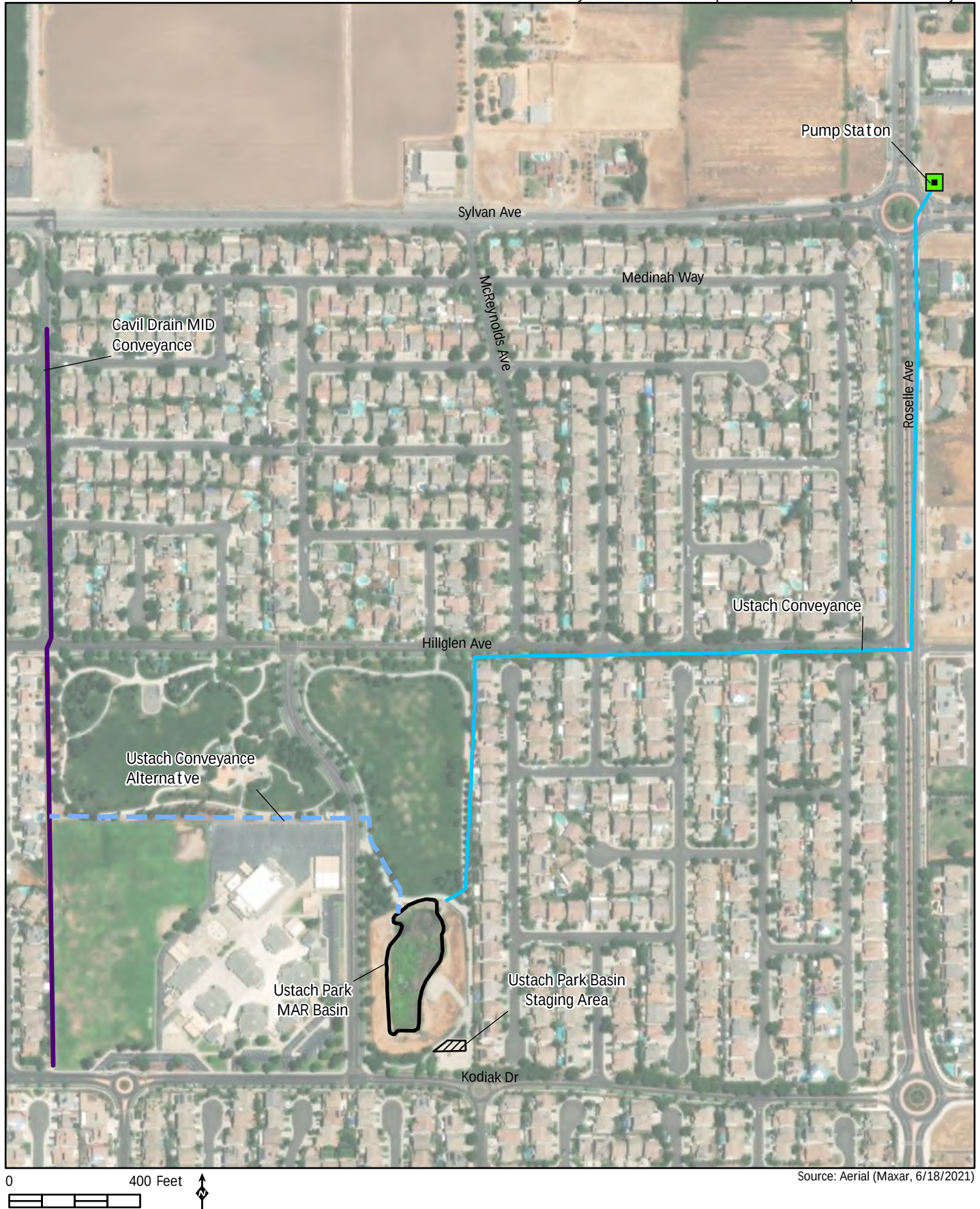




Source: Aerial Imagery (Maxar, 6/18/2021)



Source: Aerial Imagery (Maxar, 6/18/2021)





Source: Aerial Imagery (Maxar, 6/18/2021)

La Coste Lane Parcel 1 North
and Parcel 2 South Basin Site Plan

Figure 5

Attachment B

CalEEMod Output

Attachment B

CalEEMod Output

Merle Avenue MAR Basin Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

3.3. Site Preparation (2023) - Unmitigated

3.5. Paving (2024) - Unmitigated

3.7. Trenching (2023) - Unmitigated

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Merle Avenue MAR Basin
Construction Start Date	12/1/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	Modesto, CA, USA
County	Stanislaus
City	Modesto
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2258
EDFZ	15
Electric Utility	Modesto Irrigation District
Gas Utility	Pacific Gas & Electric
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
Other Non-Asphalt Surfaces	14.0	Acre	14.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.13	2.59	27.0	22.4	0.06	1.23	6.05	7.28	1.14	2.84	3.98	—	5,812	5,812	0.20	0.41	0.16	5,938
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.64	0.60	< 0.005	0.03	0.09	0.12	0.03	0.04	0.07	—	171	171	0.01	0.01	0.05	173
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.12	0.11	< 0.005	0.01	0.02	0.02	< 0.005	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.01	28.7

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.13	2.59	27.0	22.4	0.06	1.23	6.05	7.28	1.14	2.84	3.98	—	5,812	5,812	0.20	0.41	0.16	5,938

2024	0.33	0.27	3.01	3.86	0.01	0.14	0.10	0.23	0.13	0.03	0.15	—	807	807	0.03	0.04	0.02	820
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.08	0.07	0.64	0.60	< 0.005	0.03	0.09	0.12	0.03	0.04	0.07	—	171	171	0.01	0.01	0.05	173
2024	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	< 0.005	11.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.01	0.01	0.12	0.11	< 0.005	0.01	0.02	0.02	< 0.005	0.01	0.01	—	28.3	28.3	< 0.005	< 0.005	0.01	28.7
2024	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.83	1.83	< 0.005	< 0.005	< 0.005	1.86

3. Construction Emissions Details

3.1. Demolition (2023) - 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	0.43	0.36	2.91	2.62	0.01	0.10	—	0.10	0.09	—	0.09	—	1,218	1,218	0.05	0.01	—	1,223
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	16.7	16.7	< 0.005	< 0.005	—	16.7

Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.76	2.76	< 0.005	< 0.005	—	2.77
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.1	38.1	< 0.005	< 0.005	0.01	38.6
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	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	16.3	16.3	< 0.005	< 0.005	< 0.005	17.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.22	0.22	< 0.005	< 0.005	< 0.005	0.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04

3.3. Site Preparation (2023) - 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	2.93	2.46	23.5	20.8	0.03	1.19	—	1.19	1.09	—	1.09	—	3,306	3,306	0.13	0.03	—	3,317
Dust From Material Movement	—	—	—	—	—	—	5.33	5.33	—	2.65	2.65	—	—	—	—	—	—	—
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	0.03	0.32	0.28	< 0.005	0.02	—	0.02	0.01	—	0.01	—	45.3	45.3	< 0.005	< 0.005	—	45.4
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.50	7.50	< 0.005	< 0.005	—	7.52

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	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	0.08	0.07	0.07	0.73	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.02	116
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	0.12	0.06	3.36	0.86	0.03	0.04	0.61	0.65	0.04	0.17	0.21	—	2,392	2,392	0.05	0.37	0.15	2,505
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	—	1.61	1.61	< 0.005	< 0.005	< 0.005	1.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.8	32.8	< 0.005	0.01	0.03	34.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.42	5.42	< 0.005	< 0.005	0.01	5.68

3.5. 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	0.29	0.24	2.65	3.51	< 0.005	0.13	—	0.13	0.12	—	0.12	—	540	540	0.02	< 0.005	—	541
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.39	7.39	< 0.005	< 0.005	—	7.42
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.22	1.22	< 0.005	< 0.005	—	1.23
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.3	37.3	< 0.005	< 0.005	< 0.005	37.8
Vendor	0.01	0.01	0.34	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	231	231	< 0.005	0.03	0.02	241

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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.16	3.16	< 0.005	< 0.005	< 0.005	3.30
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	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.55
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. Trenching (2023) - 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	1.08	0.91	7.97	8.41	0.02	0.35	—	0.35	0.32	—	0.32	—	2,367	2,367	0.10	0.02	—	2,375
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	0.02	0.22	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
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	0.06	0.06	0.06	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.2	95.2	0.01	< 0.005	0.01	96.6
Vendor	0.01	0.01	0.35	0.13	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	234	234	< 0.005	0.03	0.02	244
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	—	2.69	2.69	< 0.005	< 0.005	0.01	2.73
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.40	6.40	< 0.005	< 0.005	0.01	6.70
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	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.11
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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/8/2023	12/14/2023	5.00	5.00	—
Site Preparation	Site Preparation	12/1/2023	12/7/2023	5.00	5.00	—
Paving	Paving	1/2/2024	1/8/2024	5.00	5.00	—
Underground Utilities	Trenching	12/15/2023	12/28/2023	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Average	1.00	8.00	250	0.38
Demolition	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	120	0.40
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	6.00	89.0	0.36

Underground Utilities	Cranes	Diesel	Average	1.00	4.00	367	0.29
Underground Utilities	Excavators	Diesel	Average	1.00	8.00	250	0.38
Underground Utilities	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Underground Utilities	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Underground Utilities	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	5.00	10.8	LDA,LDT1,LDT2
Demolition	Vendor	—	7.17	HHDT,MHDT
Demolition	Hauling	0.40	11.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	15.0	10.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.17	HHDT,MHDT
Site Preparation	Hauling	43.6	15.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	5.00	10.8	LDA,LDT1,LDT2
Paving	Vendor	10.0	7.17	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Underground Utilities	—	—	—	—
Underground Utilities	Worker	12.5	10.8	LDA,LDT1,LDT2

Underground Utilities	Vendor	10.0	7.17	HHDT,MHDT
Underground Utilities	Hauling	0.00	20.0	HHDT
Underground Utilities	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)
------------	--	--	--	--	-----------------------------

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 (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	8.00	—
Site Preparation	0.00	1,412	7.50	0.00	—
Paving	0.00	0.00	0.00	0.00	14.0

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	14.0	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	478	0.03	< 0.005
2024	0.00	478	0.03	< 0.005

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
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	21.3	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 $\frac{3}{4}$ 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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
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	70.3

AQ-PM	57.6
AQ-DPM	94.7
Drinking Water	97.8
Lead Risk Housing	90.3
Pesticides	0.00
Toxic Releases	43.9
Traffic	23.6
Effect Indicators	—
CleanUp Sites	85.9
Groundwater	78.6
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	72.2
Solid Waste	59.2
Sensitive Population	—
Asthma	91.6
Cardio-vascular	74.1
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	69.9
Housing	87.2
Linguistic	37.0
Poverty	92.3
Unemployment	95.0

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
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Economic	—
Above Poverty	12.92185294
Employed	0.744257667
Median HI	2.592069806
Education	—
Bachelor's or higher	22.22507378
High school enrollment	100
Preschool enrollment	13.25548569
Transportation	—
Auto Access	1.809316053
Active commuting	84.55023739
Social	—
2-parent households	15.23161812
Voting	4.529706147
Neighborhood	—
Alcohol availability	36.81509047
Park access	81.35506224
Retail density	93.91761838
Supermarket access	36.84075452
Tree canopy	87.64275632
Housing	—
Homeownership	6.069549596
Housing habitability	41.46028487
Low-inc homeowner severe housing cost burden	93.25035288
Low-inc renter severe housing cost burden	63.89067112
Uncrowded housing	37.03323495
Health Outcomes	—

Insured adults	27.96099063
Arthritis	14.6
Asthma ER Admissions	11.9
High Blood Pressure	13.8
Cancer (excluding skin)	38.7
Asthma	13.4
Coronary Heart Disease	6.8
Chronic Obstructive Pulmonary Disease	3.4
Diagnosed Diabetes	30.7
Life Expectancy at Birth	0.6
Cognitively Disabled	0.8
Physically Disabled	1.1
Heart Attack ER Admissions	9.0
Mental Health Not Good	14.9
Chronic Kidney Disease	14.8
Obesity	10.6
Pedestrian Injuries	99.6
Physical Health Not Good	16.1
Stroke	10.1
Health Risk Behaviors	—
Binge Drinking	25.3
Current Smoker	6.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4

Elderly	29.3
English Speaking	68.5
Foreign-born	6.7
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	31.4
Traffic Density	23.5
Traffic Access	0.0
Other Indices	—
Hardship	85.3
Other Decision Support	—
2016 Voting	10.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0
Healthy Places Index Score for Project Location (b)	1.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule based on information provided by project applicant.
Construction: Off-Road Equipment	Equipment per project engineer. Off-Highway Truck=water truck.
Construction: Trips and VMT	Hauling distances per project engineer.

Well 65 MAR Basin Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
- 3. Construction Emissions Details
 - 3.1. Demolition (2023) - Unmitigated
 - 3.3. Site Preparation (2023) - Unmitigated
 - 3.5. Paving (2024) - Unmitigated
 - 3.7. Trenching (2023) - Unmitigated
- 4. Operations Emissions Details
 - 4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Well 65 MAR Basin
Construction Start Date	12/1/2023
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	Modesto, CA, USA
County	Stanislaus
City	Modesto
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2258
EDFZ	15
Electric Utility	Modesto Irrigation District
Gas Utility	Pacific Gas & Electric
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
Other Non-Asphalt Surfaces	3.30	Acre	3.30	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.02	2.54	23.7	21.5	0.03	1.19	5.45	6.64	1.09	2.68	3.77	—	3,500	3,500	0.14	0.06	0.03	3,517
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.07	0.59	0.59	< 0.005	0.03	0.08	0.11	0.03	0.04	0.06	—	139	139	0.01	< 0.005	0.02	140
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.11	0.11	< 0.005	< 0.005	0.01	0.02	< 0.005	0.01	0.01	—	23.1	23.1	< 0.005	< 0.005	< 0.005	23.2

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.02	2.54	23.7	21.5	0.03	1.19	5.45	6.64	1.09	2.68	3.77	—	3,500	3,500	0.14	0.06	0.03	3,517

Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.76	2.76	< 0.005	< 0.005	—	2.77
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.1	38.1	< 0.005	< 0.005	0.01	38.6
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	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	< 0.005	19.3
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.54	0.54	< 0.005	< 0.005	< 0.005	0.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.25	0.25	< 0.005	< 0.005	< 0.005	0.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04

3.3. Site Preparation (2023) - 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	2.93	2.46	23.5	20.8	0.03	1.19	—	1.19	1.09	—	1.09	—	3,306	3,306	0.13	0.03	—	3,317
Dust From Material Movement	—	—	—	—	—	—	5.32	5.32	—	2.65	2.65	—	—	—	—	—	—	—
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	0.03	0.32	0.28	< 0.005	0.02	—	0.02	0.01	—	0.01	—	45.3	45.3	< 0.005	< 0.005	—	45.4
Dust From Material Movement	—	—	—	—	—	—	0.07	0.07	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.50	7.50	< 0.005	< 0.005	—	7.52

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	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	0.08	0.07	0.07	0.73	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.02	116
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	0.01	< 0.005	0.14	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	79.5	79.5	< 0.005	0.01	< 0.005	83.3
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	—	1.61	1.61	< 0.005	< 0.005	< 0.005	1.64
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.27
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.19

3.5. 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	0.29	0.24	2.65	3.51	< 0.005	0.13	—	0.13	0.12	—	0.12	—	540	540	0.02	< 0.005	—	541
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.39	7.39	< 0.005	< 0.005	—	7.42
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.22	1.22	< 0.005	< 0.005	—	1.23
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.02	0.02	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	37.3	37.3	< 0.005	< 0.005	< 0.005	37.8
Vendor	0.01	0.01	0.34	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	231	231	< 0.005	0.03	0.02	241

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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.54
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.16	3.16	< 0.005	< 0.005	< 0.005	3.30
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	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.52	0.52	< 0.005	< 0.005	< 0.005	0.55
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. Trenching (2023) - 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	1.08	0.91	7.97	8.41	0.02	0.35	—	0.35	0.32	—	0.32	—	2,367	2,367	0.10	0.02	—	2,375
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	0.02	0.22	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.9	64.9	< 0.005	< 0.005	—	65.1
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
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	0.06	0.06	0.06	0.61	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	95.2	95.2	0.01	< 0.005	0.01	96.6
Vendor	0.01	0.01	0.35	0.13	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	234	234	< 0.005	0.03	0.02	244
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	—	2.69	2.69	< 0.005	< 0.005	0.01	2.73
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.40	6.40	< 0.005	< 0.005	0.01	6.70
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	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.45
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.06	1.06	< 0.005	< 0.005	< 0.005	1.11
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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/8/2023	12/14/2023	5.00	5.00	—
Site Preparation	Site Preparation	12/1/2023	12/7/2023	5.00	5.00	—
Paving	Paving	1/2/2024	1/8/2024	5.00	5.00	—
Underground Utilities	Trenching	12/15/2023	12/28/2023	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Average	1.00	8.00	250	0.38
Demolition	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	120	0.40
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	6.00	89.0	0.36

Underground Utilities	Cranes	Diesel	Average	1.00	4.00	367	0.29
Underground Utilities	Excavators	Diesel	Average	1.00	8.00	250	0.38
Underground Utilities	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Underground Utilities	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Underground Utilities	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	5.00	10.8	LDA,LDT1,LDT2
Demolition	Vendor	—	7.17	HHDT,MHDT
Demolition	Hauling	0.80	6.00	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	15.0	10.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.17	HHDT,MHDT
Site Preparation	Hauling	3.20	6.50	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	5.00	10.8	LDA,LDT1,LDT2
Paving	Vendor	10.0	7.17	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Underground Utilities	—	—	—	—
Underground Utilities	Worker	12.5	10.8	LDA,LDT1,LDT2

Underground Utilities	Vendor	10.0	7.17	HHDT,MHDT
Underground Utilities	Hauling	0.00	20.0	HHDT
Underground Utilities	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)
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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 (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	16.0	—
Site Preparation	0.00	101	7.50	0.00	—
Paving	0.00	0.00	0.00	0.00	3.30

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	3.30	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	478	0.03	< 0.005
2024	0.00	478	0.03	< 0.005

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
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	21.3	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 $\frac{3}{4}$ 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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

AQ-PM	57.6
AQ-DPM	94.7
Drinking Water	97.8
Lead Risk Housing	90.3
Pesticides	0.00
Toxic Releases	43.9
Traffic	23.6
Effect Indicators	—
CleanUp Sites	85.9
Groundwater	78.6
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	72.2
Solid Waste	59.2
Sensitive Population	—
Asthma	91.6
Cardio-vascular	74.1
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	69.9
Housing	87.2
Linguistic	37.0
Poverty	92.3
Unemployment	95.0

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
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Economic	—
Above Poverty	12.92185294
Employed	0.744257667
Median HI	2.592069806
Education	—
Bachelor's or higher	22.22507378
High school enrollment	100
Preschool enrollment	13.25548569
Transportation	—
Auto Access	1.809316053
Active commuting	84.55023739
Social	—
2-parent households	15.23161812
Voting	4.529706147
Neighborhood	—
Alcohol availability	36.81509047
Park access	81.35506224
Retail density	93.91761838
Supermarket access	36.84075452
Tree canopy	87.64275632
Housing	—
Homeownership	6.069549596
Housing habitability	41.46028487
Low-inc homeowner severe housing cost burden	93.25035288
Low-inc renter severe housing cost burden	63.89067112
Uncrowded housing	37.03323495
Health Outcomes	—

Insured adults	27.96099063
Arthritis	14.6
Asthma ER Admissions	11.9
High Blood Pressure	13.8
Cancer (excluding skin)	38.7
Asthma	13.4
Coronary Heart Disease	6.8
Chronic Obstructive Pulmonary Disease	3.4
Diagnosed Diabetes	30.7
Life Expectancy at Birth	0.6
Cognitively Disabled	0.8
Physically Disabled	1.1
Heart Attack ER Admissions	9.0
Mental Health Not Good	14.9
Chronic Kidney Disease	14.8
Obesity	10.6
Pedestrian Injuries	99.6
Physical Health Not Good	16.1
Stroke	10.1
Health Risk Behaviors	—
Binge Drinking	25.3
Current Smoker	6.0
No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4

Elderly	29.3
English Speaking	68.5
Foreign-born	6.7
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	31.4
Traffic Density	23.5
Traffic Access	0.0
Other Indices	—
Hardship	85.3
Other Decision Support	—
2016 Voting	10.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0
Healthy Places Index Score for Project Location (b)	1.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule based on information provided by project applicant.
Construction: Off-Road Equipment	Equipment per project engineer. Off-Highway Truck=water truck
Construction: Trips and VMT	Trip length provided by project engineer.

Ustach Park MAR Basin Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 3. Construction Emissions Details
 - 3.1. Demolition (2023) - Unmitigated
 - 3.3. Site Preparation (2023) - Unmitigated
 - 3.5. Paving (2024) - Unmitigated
 - 3.7. Trenching (2024) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Ustach Park MAR Basin
Construction Start Date	12/1/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	Modesto, CA, USA
County	Stanislaus
City	Modesto
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2258
EDFZ	15
Electric Utility	Modesto Irrigation District
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.13

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
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Other Non-Asphalt Surfaces	2.80	Acre	2.80	0.00	0.00	—	—	—
Other Asphalt Surfaces	10.8	1000sqft	0.25	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.74	1.45	15.1	13.8	0.03	0.65	2.76	3.42	0.60	1.37	1.97	—	2,691	2,691	0.11	0.11	0.04	2,711
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.03	0.24	0.29	< 0.005	0.01	0.04	0.05	0.01	0.02	0.03	—	81.5	81.5	< 0.005	< 0.005	0.02	82.1
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.01	0.04	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	13.5	13.5	< 0.005	< 0.005	< 0.005	13.6

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	1.74	1.45	15.1	13.8	0.03	0.65	2.76	3.42	0.60	1.37	1.97	—	2,619	2,619	0.10	0.11	0.04	2,655
2024	1.11	0.93	7.68	9.05	0.02	0.32	0.16	0.47	0.29	0.04	0.33	—	2,691	2,691	0.11	0.06	0.03	2,711
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.03	0.02	0.23	0.21	< 0.005	0.01	0.04	0.05	0.01	0.02	0.03	—	46.4	46.4	< 0.005	< 0.005	0.01	46.9
2024	0.03	0.03	0.24	0.29	< 0.005	0.01	0.01	0.02	0.01	< 0.005	0.01	—	81.5	81.5	< 0.005	< 0.005	0.02	82.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	7.67	7.67	< 0.005	< 0.005	< 0.005	7.76
2024	0.01	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	< 0.005	13.6

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.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	3.07	< 0.005	< 0.005	0.00	3.09

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.6	18.6	< 0.005	< 0.005	0.00	18.6

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.07	3.07	< 0.005	< 0.005	—	3.09
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.07	3.07	< 0.005	< 0.005	0.00	3.09

3. Construction Emissions Details

3.1. Demolition (2023) - 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	0.43	0.36	2.91	2.62	0.01	0.10	—	0.10	0.09	—	0.09	—	1,218	1,218	0.05	0.01	—	1,223
Demolition	—	—	—	—	—	—	0.04	0.04	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.0	10.0	< 0.005	< 0.005	—	10.0

Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.66	1.66	< 0.005	< 0.005	—	1.66
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.1	38.1	< 0.005	< 0.005	0.01	38.6
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	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.4	15.4	< 0.005	< 0.005	< 0.005	16.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.02	0.02	< 0.005	< 0.005	< 0.005	0.02

3.3. Site Preparation (2023) - 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	1.66	1.40	14.1	13.1	0.02	0.64	—	0.64	0.59	—	0.59	—	1,959	1,959	0.08	0.02	—	1,965
Dust From Material Movement	—	—	—	—	—	—	2.56	2.56	—	1.31	1.31	—	—	—	—	—	—	—
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	0.19	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.8	26.8	< 0.005	< 0.005	—	26.9
Dust From Material Movement	—	—	—	—	—	—	0.04	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.44	4.44	< 0.005	< 0.005	—	4.46

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.37	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57.1	57.1	< 0.005	< 0.005	0.01	57.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.02	0.97	0.32	0.01	0.01	0.15	0.16	0.01	0.04	0.05	—	603	603	0.02	0.09	0.04	631
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	—	0.81	0.81	< 0.005	< 0.005	< 0.005	0.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.25	8.25	< 0.005	< 0.005	0.01	8.65
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.37	1.37	< 0.005	< 0.005	< 0.005	1.43

3.5. 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	0.42	0.36	3.34	4.27	0.01	0.17	—	0.17	0.15	—	0.15	—	646	646	0.03	0.01	—	648
Paving	—	0.22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.31	5.31	< 0.005	< 0.005	—	5.33
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	—	0.88	0.88	< 0.005	< 0.005	—	0.88
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	0.04	0.03	0.03	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	55.9	55.9	< 0.005	< 0.005	0.01	56.8
Vendor	0.01	0.01	0.34	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	231	231	< 0.005	0.03	0.02	241

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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.47	0.47	< 0.005	< 0.005	< 0.005	0.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.89	1.89	< 0.005	< 0.005	< 0.005	1.98
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	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.31	0.31	< 0.005	< 0.005	< 0.005	0.33
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. Trenching (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	1.04	0.87	7.29	8.37	0.02	0.31	—	0.31	0.29	—	0.29	—	2,367	2,367	0.10	0.02	—	2,375
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	0.02	0.20	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	—	64.8	64.8	< 0.005	< 0.005	—	65.1
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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	10.7	10.7	< 0.005	< 0.005	—	10.8
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	0.06	0.05	0.05	0.56	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	93.2	93.2	0.01	< 0.005	0.01	94.6
Vendor	0.01	0.01	0.34	0.12	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	231	231	< 0.005	0.03	0.02	241
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	—	2.63	2.63	< 0.005	< 0.005	0.01	2.68
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.31	6.31	< 0.005	< 0.005	0.01	6.61
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	—	0.44	0.44	< 0.005	< 0.005	< 0.005	0.44
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.09
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	18.6	18.6	< 0.005	< 0.005	—	18.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	3.07	3.07	< 0.005	< 0.005	—	3.09
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.07	3.07	< 0.005	< 0.005	—	3.09

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	0.02	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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

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)

Equipme 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)

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/8/2023	12/12/2023	5.00	3.00	—
Site Preparation	Site Preparation	12/1/2023	12/7/2023	5.00	5.00	—
Paving	Paving	1/16/2024	1/18/2024	5.00	3.00	—
Underground Utilities	Trenching	1/2/2024	1/15/2024	5.00	10.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Average	1.00	8.00	250	0.38
Demolition	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Underground Utilities	Cranes	Diesel	Average	1.00	4.00	367	0.29
Underground Utilities	Excavators	Diesel	Average	1.00	8.00	250	0.38
Underground Utilities	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Underground Utilities	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Underground Utilities	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	5.00	10.8	LDA,LDT1,LDT2
Demolition	Vendor	—	7.17	HHDT,MHDT
Demolition	Hauling	0.67	6.00	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	7.50	10.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.17	HHDT,MHDT
Site Preparation	Hauling	20.0	8.00	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	10.8	LDA,LDT1,LDT2
Paving	Vendor	10.0	7.17	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Underground Utilities	—	—	—	—
Underground Utilities	Worker	12.5	10.8	LDA,LDT1,LDT2
Underground Utilities	Vendor	10.0	7.17	HHDT,MHDT
Underground Utilities	Hauling	0.00	20.0	HHDT
Underground Utilities	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)
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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 (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	8.00	—
Site Preparation	0.00	645	7.50	0.00	—
Paving	0.00	0.00	0.00	0.00	3.05

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	2.80	0%
Other Asphalt Surfaces	0.25	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	478	0.03	< 0.005
2024	0.00	478	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
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
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

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	7,966

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Other Non-Asphalt Surfaces	13,899	488	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	488	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)
Other Non-Asphalt Surfaces	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Non-Asphalt Surfaces	0.00	—
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
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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
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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
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5.16.2. Process Boilers

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

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	21.3	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 $\frac{3}{4}$ 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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
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	70.3
AQ-PM	57.6
AQ-DPM	94.7
Drinking Water	97.8
Lead Risk Housing	90.3
Pesticides	0.00
Toxic Releases	43.9
Traffic	23.6
Effect Indicators	—
CleanUp Sites	85.9
Groundwater	78.6
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	72.2
Solid Waste	59.2
Sensitive Population	—
Asthma	91.6
Cardio-vascular	74.1
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	69.9
Housing	87.2
Linguistic	37.0
Poverty	92.3

Unemployment	95.0
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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	12.92185294
Employed	0.744257667
Median HI	2.592069806
Education	—
Bachelor's or higher	22.22507378
High school enrollment	100
Preschool enrollment	13.25548569
Transportation	—
Auto Access	1.809316053
Active commuting	84.55023739
Social	—
2-parent households	15.23161812
Voting	4.529706147
Neighborhood	—
Alcohol availability	36.81509047
Park access	81.35506224
Retail density	93.91761838
Supermarket access	36.84075452
Tree canopy	87.64275632
Housing	—
Homeownership	6.069549596

Housing habitability	41.46028487
Low-inc homeowner severe housing cost burden	93.25035288
Low-inc renter severe housing cost burden	63.89067112
Uncrowded housing	37.03323495
Health Outcomes	—
Insured adults	27.96099063
Arthritis	14.6
Asthma ER Admissions	11.9
High Blood Pressure	13.8
Cancer (excluding skin)	38.7
Asthma	13.4
Coronary Heart Disease	6.8
Chronic Obstructive Pulmonary Disease	3.4
Diagnosed Diabetes	30.7
Life Expectancy at Birth	0.6
Cognitively Disabled	0.8
Physically Disabled	1.1
Heart Attack ER Admissions	9.0
Mental Health Not Good	14.9
Chronic Kidney Disease	14.8
Obesity	10.6
Pedestrian Injuries	99.6
Physical Health Not Good	16.1
Stroke	10.1
Health Risk Behaviors	—
Binge Drinking	25.3
Current Smoker	6.0

No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4
Elderly	29.3
English Speaking	68.5
Foreign-born	6.7
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	31.4
Traffic Density	23.5
Traffic Access	0.0
Other Indices	—
Hardship	85.3
Other Decision Support	—
2016 Voting	10.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0
Healthy Places Index Score for Project Location (b)	1.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule based on information provided by applicant.
Construction: Off-Road Equipment	Equipment per project engineer. Off-Highway Trucks=water trucks.
Construction: Trips and VMT	Hauling distances per project engineer.
Operations: Energy Use	Estimated electricity use for lift station.
Construction: Dust From Material Movement	Based on information provided by project applicant.

LCL P1 and P2 MAR Basins Detailed Report

Table of Contents

- 1. Basic Project Information
 - 1.1. Basic Project Information
 - 1.2. Land Use Types
 - 1.3. User-Selected Emission Reduction Measures by Emissions Sector
- 2. Emissions Summary
 - 2.1. Construction Emissions Compared Against Thresholds
 - 2.2. Construction Emissions by Year, Unmitigated
 - 2.4. Operations Emissions Compared Against Thresholds
 - 2.5. Operations Emissions by Sector, Unmitigated
- 3. Construction Emissions Details
 - 3.1. Demolition (2023) - Unmitigated
 - 3.3. Site Preparation (2023) - Unmitigated
 - 3.5. Grading (2024) - Unmitigated
 - 3.7. Paving (2024) - Unmitigated

3.9. Trenching (2024) - Unmitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LCL P1 and P2 MAR Basins
Construction Start Date	12/1/2023
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.10
Precipitation (days)	29.2
Location	Modesto, CA, USA
County	Stanislaus
City	Modesto
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2258
EDFZ	15
Electric Utility	Modesto Irrigation District
Gas Utility	Pacific Gas & Electric
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
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Other Non-Asphalt Surfaces	19.5	Acre	19.5	0.00	0.00	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.19	3.53	31.6	31.5	0.06	1.48	5.65	7.13	1.37	2.73	4.10	—	6,643	6,643	0.27	0.15	0.06	6,688
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.25	0.21	1.91	1.93	< 0.005	0.09	0.31	0.40	0.08	0.15	0.23	—	422	422	0.02	0.01	0.07	426
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.35	0.35	< 0.005	0.02	0.06	0.07	0.01	0.03	0.04	—	69.9	69.9	< 0.005	< 0.005	0.01	70.5

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.08	2.58	25.2	22.2	0.04	1.20	5.62	6.82	1.10	2.73	3.83	—	4,172	4,172	0.17	0.15	0.06	4,221
2024	4.19	3.53	31.6	31.5	0.06	1.48	5.65	7.13	1.37	2.73	4.10	—	6,643	6,643	0.27	0.13	0.06	6,688
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.09	0.08	0.75	0.67	< 0.005	0.03	0.18	0.22	0.03	0.08	0.11	—	135	135	0.01	0.01	0.03	137
2024	0.25	0.21	1.91	1.93	< 0.005	0.09	0.31	0.40	0.08	0.15	0.23	—	422	422	0.02	0.01	0.07	426
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.02	0.01	0.14	0.12	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	22.4	22.4	< 0.005	< 0.005	0.01	22.6
2024	0.05	0.04	0.35	0.35	< 0.005	0.02	0.06	0.07	0.01	0.03	0.04	—	69.9	69.9	< 0.005	< 0.005	0.01	70.5

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.	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.5	11.5	< 0.005	< 0.005	0.00	11.6

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.13	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.13	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.6	69.6	< 0.005	< 0.005	0.00	69.9

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Area	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	11.5	11.5	< 0.005	< 0.005	—	11.6
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.5	11.5	< 0.005	< 0.005	0.00	11.6

3. Construction Emissions Details

3.1. Demolition (2023) - 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	0.27	0.23	1.70	1.78	< 0.005	0.06	—	0.06	0.06	—	0.06	—	475	475	0.02	< 0.005	—	476
Demolition	—	—	—	—	—	—	0.95	0.95	—	0.14	0.14	—	—	—	—	—	—	—
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	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.0	13.0	< 0.005	< 0.005	—	13.0

Demolition	—	—	—	—	—	—	0.03	0.03	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.15	2.15	< 0.005	< 0.005	—	2.16
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.1	38.1	< 0.005	< 0.005	0.01	38.6
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	0.02	0.01	0.51	0.23	< 0.005	< 0.005	0.05	0.06	< 0.005	0.02	0.02	—	241	241	0.01	0.04	0.01	252
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	—	1.08	1.08	< 0.005	< 0.005	< 0.005	1.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.58	6.58	< 0.005	< 0.005	0.01	6.90
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.18	0.18	< 0.005	< 0.005	< 0.005	0.18
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.09	1.09	< 0.005	< 0.005	< 0.005	1.14

3.3. Site Preparation (2023) - 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	2.93	2.46	23.5	20.8	0.03	1.19	—	1.19	1.09	—	1.09	—	3,306	3,306	0.13	0.03	—	3,317
Dust From Material Movement	—	—	—	—	—	—	5.34	5.34	—	2.65	2.65	—	—	—	—	—	—	—
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	0.08	0.07	0.64	0.57	< 0.005	0.03	—	0.03	0.03	—	0.03	—	90.6	90.6	< 0.005	< 0.005	—	90.9
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	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.0	15.0	< 0.005	< 0.005	—	15.0

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	0.08	0.07	0.07	0.73	0.00	0.00	0.11	0.11	0.00	0.03	0.03	—	114	114	0.01	< 0.005	0.02	116
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	0.07	0.04	1.61	0.70	0.01	0.01	0.17	0.18	0.01	0.05	0.06	—	752	752	0.03	0.12	0.04	788
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	—	3.23	3.23	< 0.005	< 0.005	0.01	3.28
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	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	20.6	20.6	< 0.005	< 0.005	0.02	21.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.41	3.41	< 0.005	< 0.005	< 0.005	3.57

3.5. Grading (2024) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.90	2.44	22.3	20.8	0.03	1.11	—	1.11	1.02	—	1.02	—	3,447	3,447	0.14	0.03	—	3,459
Dust From Material Movement	—	—	—	—	—	—	5.32	5.32	—	2.65	2.65	—	—	—	—	—	—	—
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	0.16	0.13	1.22	1.14	< 0.005	0.06	—	0.06	0.06	—	0.06	—	189	189	0.01	< 0.005	—	190
Dust From Material Movement	—	—	—	—	—	—	0.29	0.29	—	0.15	0.15	—	—	—	—	—	—	—
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	0.03	0.02	0.22	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	31.3	31.3	< 0.005	< 0.005	—	31.4
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	0.03	0.03	—	—	—	—	—	—	—
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	0.08	0.08	0.07	0.79	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	131	131	0.01	0.01	0.02	132
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	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.37	7.37	< 0.005	< 0.005	0.01	7.49
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	—	1.22	1.22	< 0.005	< 0.005	< 0.005	1.24
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. 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	0.42	0.36	3.34	4.27	0.01	0.17	—	0.17	0.15	—	0.15	—	646	646	0.03	0.01	—	648

Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	0.05	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.85	8.85	< 0.005	< 0.005	—	8.88
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	1.46	1.46	< 0.005	< 0.005	—	1.47
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.04	0.03	0.03	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	55.9	55.9	< 0.005	< 0.005	0.01	56.8
Vendor	0.03	0.02	0.68	0.24	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	461	461	0.01	0.07	0.03	482
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	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.80
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.31	6.31	< 0.005	< 0.005	0.01	6.61
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	—	0.13	0.13	< 0.005	< 0.005	< 0.005	0.13
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.05	1.05	< 0.005	< 0.005	< 0.005	1.09
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. Trenching (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	1.13	0.95	8.51	9.20	0.02	0.37	—	0.37	0.34	—	0.34	—	2,529	2,529	0.10	0.02	—	2,538
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	0.08	0.07	0.58	0.63	< 0.005	0.03	—	0.03	0.02	—	0.02	—	173	173	0.01	< 0.005	—	174
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	0.11	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.7	28.7	< 0.005	< 0.005	—	28.8
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	0.05	0.04	0.04	0.45	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	74.6	74.6	0.01	< 0.005	0.01	75.7
Vendor	0.03	0.02	0.68	0.24	< 0.005	0.01	0.12	0.13	0.01	0.03	0.04	—	461	461	0.01	0.07	0.03	482
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	—	5.27	5.27	< 0.005	< 0.005	0.01	5.35
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.6	31.6	< 0.005	< 0.005	0.04	33.0
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	—	0.87	0.87	< 0.005	< 0.005	< 0.005	0.89
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.23	5.23	< 0.005	< 0.005	0.01	5.47
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4.2. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Total	—	—	—	—	—	—	—	—	—	—	—	—	69.6	69.6	< 0.005	< 0.005	—	69.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.6
Total	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.6

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	0.13	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.00	0.02	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

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

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	12/15/2023	12/28/2023	5.00	10.0	—
Site Preparation	Site Preparation	12/1/2023	12/14/2023	5.00	10.0	—
Grading	Grading	1/2/2024	1/29/2024	5.00	20.0	—
Paving	Paving	2/6/2024	2/12/2024	5.00	5.00	—
Underground Utilities	Trenching	1/2/2024	2/5/2024	5.00	25.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Demolition	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	8.00	120	0.40
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	120	0.40
Grading	Off-Highway Trucks	Diesel	Average	1.00	2.00	376	0.38
Grading	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	6.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	6.00	36.0	0.38
Underground Utilities	Cranes	Diesel	Average	1.00	8.00	367	0.29
Underground Utilities	Excavators	Diesel	Average	1.00	8.00	250	0.38
Underground Utilities	Rubber Tired Loaders	Diesel	Average	1.00	8.00	150	0.36
Underground Utilities	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	5.00	10.8	LDA,LDT1,LDT2

Demolition	Vendor	—	7.17	HHDT,MHDT
Demolition	Hauling	16.9	3.50	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	15.0	10.8	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.17	HHDT,MHDT
Site Preparation	Hauling	52.8	3.50	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	10.8	LDA,LDT1,LDT2
Grading	Vendor	—	7.17	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	7.50	10.8	LDA,LDT1,LDT2
Paving	Vendor	20.0	7.17	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Underground Utilities	—	—	—	—
Underground Utilities	Worker	10.0	10.8	LDA,LDT1,LDT2
Underground Utilities	Vendor	20.0	7.17	HHDT,MHDT
Underground Utilities	Hauling	0.00	20.0	HHDT
Underground Utilities	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)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Ton of Debris)	Material Exported (Ton of Debris)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	676	—
Site Preparation	0.00	3,429	15.0	0.00	—
Grading	—	—	30.0	0.00	—
Paving	0.00	0.00	0.00	0.00	19.5

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Other Non-Asphalt Surfaces	19.5	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
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2023	0.00	478	0.03	< 0.005
2024	0.00	478	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VM/Weekday	VM/Saturday	VM/Sunday	VM/Year
Other Non-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

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	50,965

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Other Non-Asphalt Surfaces	52,120	488	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)
Other Non-Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Other Non-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
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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
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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
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5.16.2. Process Boilers

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

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	21.3	annual days of extreme heat
Extreme Precipitation	1.85	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	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 $\frac{3}{4}$ 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	1	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A

Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	1	1	1	2
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
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	70.3
AQ-PM	57.6
AQ-DPM	94.7
Drinking Water	97.8
Lead Risk Housing	90.3
Pesticides	0.00
Toxic Releases	43.9
Traffic	23.6
Effect Indicators	—
CleanUp Sites	85.9
Groundwater	78.6
Haz Waste Facilities/Generators	51.7
Impaired Water Bodies	72.2
Solid Waste	59.2
Sensitive Population	—
Asthma	91.6
Cardio-vascular	74.1
Low Birth Weights	32.8
Socioeconomic Factor Indicators	—
Education	69.9
Housing	87.2
Linguistic	37.0
Poverty	92.3

Unemployment	95.0
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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	12.92185294
Employed	0.744257667
Median HI	2.592069806
Education	—
Bachelor's or higher	22.22507378
High school enrollment	100
Preschool enrollment	13.25548569
Transportation	—
Auto Access	1.809316053
Active commuting	84.55023739
Social	—
2-parent households	15.23161812
Voting	4.529706147
Neighborhood	—
Alcohol availability	36.81509047
Park access	81.35506224
Retail density	93.91761838
Supermarket access	36.84075452
Tree canopy	87.64275632
Housing	—
Homeownership	6.069549596

Housing habitability	41.46028487
Low-inc homeowner severe housing cost burden	93.25035288
Low-inc renter severe housing cost burden	63.89067112
Uncrowded housing	37.03323495
Health Outcomes	—
Insured adults	27.96099063
Arthritis	14.6
Asthma ER Admissions	11.9
High Blood Pressure	13.8
Cancer (excluding skin)	38.7
Asthma	13.4
Coronary Heart Disease	6.8
Chronic Obstructive Pulmonary Disease	3.4
Diagnosed Diabetes	30.7
Life Expectancy at Birth	0.6
Cognitively Disabled	0.8
Physically Disabled	1.1
Heart Attack ER Admissions	9.0
Mental Health Not Good	14.9
Chronic Kidney Disease	14.8
Obesity	10.6
Pedestrian Injuries	99.6
Physical Health Not Good	16.1
Stroke	10.1
Health Risk Behaviors	—
Binge Drinking	25.3
Current Smoker	6.0

No Leisure Time for Physical Activity	24.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	47.4
Elderly	29.3
English Speaking	68.5
Foreign-born	6.7
Outdoor Workers	11.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	31.4
Traffic Density	23.5
Traffic Access	0.0
Other Indices	—
Hardship	85.3
Other Decision Support	—
2016 Voting	10.4

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	94.0
Healthy Places Index Score for Project Location (b)	1.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Construction schedule based on information provided by project applicant.
Construction: Off-Road Equipment	Equipment per project engineer. Off-Highway Truck=water truck.
Construction: Trips and VMT	Construction schedule provided by project engineer.
Operations: Energy Use	Energy use provided by project engineer.