

APPENDIX 2

TECHNICAL MEMORANDUM

DATE: June 22, 2026
TO: Tom Dodson, Tom Dodson & Associates
FROM: Haseeb Qureshi, Urban Crossroads, Inc.
JOB NO: 17078-02 AQ & GHG Assessment

SUBJECT: OSSUM WASH REPAIR AIR QUALITY AND GREENHOUSE GAS ASSESSMENT

Urban Crossroads, Inc. is pleased to provide the following Air Quality and Greenhouse Gas Assessment for the Ossum Wash Repair Project (Project) for the Victor Valley Wastewater Reclamation Authority (VWVRA), which is located within Ossum Wash in the City of Victorville.

PROJECT OVERVIEW

It is our understanding that the Project is to consist of the construction and operation of new wastewater interceptor infrastructure to support VWVRA's regional wastewater conveyance system and ensure reliable service to current and future customers in the Victor Valley region. The proposed improvements include the following:

- Installing grouted riprap on the channel side slope along the easterly side of the existing grouted riprap channel.
- Installing an extension of the grouted riprap channel from the downstream end of the existing grouted riprap to the northerly extent of the VWVRA pipeline easement.
- Installing loose riprap lined channel downstream of the proposed grouted riprap.

Exhibit 1 illustrates the preliminary site plan. The Project is anticipated to have an opening year of 2027.

SUMMARY OF FINDINGS

Results of the assessment indicate that the Project would result in a less than significant with respect to air quality and greenhouse gases.

PROJECT AIR QUALITY IMPACTS

AIR QUALITY SETTING

Mojave Desert Air Basin (MDAB)

The Project site is located in the portion of the County of San Bernardino, California, that is part of the MDAB and is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The air quality assessment for the Project evaluates emissions impacts associated with short-term construction and long-term operation of the Project. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its *California Environmental Quality Act and Federal Conformity Guidelines* (August 2016), were adhered to in the assessment of air quality impacts for the Project.

Regional Climate

Air quality in the Project area is not only affected by various emissions sources (mobile, industry, etc.) but is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains within the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and Central California valley regions by mountains (highest elevation is approximately 10,000 feet), whose passes form the main channels for these air masses. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser pass lies between the San Bernardino Mountains and the Little San Bernardino Mountains in the Morongo Valley. The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley), whose primary channel is the San Gorgonio Pass (2,300 feet) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate that at least three months have maximum average temperatures over 100.4° F.

Snow is common above 5,000 feet in elevation, resulting in moderate snowpack and limited spring runoff. Below 5,000 feet, any precipitation normally occurs as rainfall. Pacific storm fronts normally move into the area from the west, driven by prevailing winds from the west and southwest. During

late summer, moist high-pressure systems from the Pacific collide with rising heated air from desert areas, resulting in brief, high-intensity thunderstorms that can cause high winds and localized flash flooding.

REGULATORY BACKGROUND

FEDERAL REGULATIONS

The United States Environmental Protection Agency (EPA) is responsible for setting and enforcing the national ambient air quality standards (NAAQS) for ozone (O₃), carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO₂), particulate matter 10 microns in diameter or less (PM₁₀), and lead (Pb) (1). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (2). The CAA also mandates that each state submit and implement state implementation plans (SIPs) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (3) (4). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O₃, NO₂, SO₂, PM₁₀, CO, particulate matter 2.5 microns in diameter or less (PM_{2.5}), and Pb. The NAAQS were amended in July 1997 to include an additional standard for O₃ and to adopt a NAAQS for PM_{2.5}.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_x. NO_x is a collective term that includes all forms of NO_x which are emitted as byproducts of the combustion process.

CALIFORNIA REGULATIONS

CARB

The CARB, which became part of the California EPA (CalEPA) in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the California ambient air quality standards (CAAQS) for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO₄, visibility, hydrogen

sulfide (H_2S), and vinyl chloride ($\text{C}_2\text{H}_3\text{Cl}$). However, at this time, H_2S and $\text{C}_2\text{H}_3\text{Cl}$ are not measured at any monitoring stations in the MDAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (5) (6).

Local air quality management districts, such as the MDAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g., motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROG, NOX, CO and PM₁₀. However, air basins may use an alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

AQMP

Currently, the NAAQS and CAAQS are exceeded in most parts of the MDAB. The NAAQS, the Project region within the MDAB is in nonattainment for O₃ (8-hour) and PM₁₀. For the CAAQS, the Project region within the MDAB is in nonattainment for O₃ (1-hour and 8-hour) and PM₁₀. In response, the MDAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards (7). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

APPLICABLE REGULATORY REQUIREMENTS

MDAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to Rule 403 (Fugitive Dust) and Rule 1113 (Architectural Coatings) (8) (9).

MDAQMD RULE 403

The purpose of this rule is to reduce the amount of PM₁₀ entrained in the ambient air from anthropogenic fugitive dust sources within the MDAQMD by requiring actions to prevent, reduce, or mitigate fugitive dust. The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403 (10).

- Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For purposes of this Rule, use of a water truck to maintain moist

disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance.

- Take actions sufficient to prevent project-related trackout onto paved surfaces.

MDAQMD RULE 1113

The purpose of this rule is to limit the quantity of volatile organic compounds (VOC) in architectural coatings. The following measures shall be incorporated into Project plans and specifications as implementation of MDAQMD Rule 1113 (11).

- Only “Low-VOC” paints consistent with MDAQMD Rule 1113 shall be used.

METHODOLOGY

The California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including MDAQMD, released CalEEMod 2022 in May 2022. CalEEMod periodically releases updates, as such the latest version available at the time of this report has been utilized in this analysis. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (12). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality and greenhouse gas emissions.

STANDARDS OF SIGNIFICANCE

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the California Environmental Quality Act Guidelines (*CEQA Guidelines*) (14 CCR §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (13):

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

AIR QUALITY REGIONAL EMISSIONS THRESHOLDS

The MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 1. The MDAQMD’s *CEQA and Federal Conformity Guidelines* indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact (14).

TABLE 1: MAXIMUM REGIONAL DAILY EMISSIONS THRESHOLDS

Pollutant	Regional Thresholds
NOX	137 lbs/day
VOC	137 lbs/day
PM10	82 lbs/day
PM2.5	65 lbs/day
SOX	137 lbs/day
CO	548 lbs/day

lbs/day = Pounds Per Day

CONSTRUCTION ACTIVITIES

Construction activities associated with the Project would result in emissions of VOCs, NO_x, SO_x, CO, PM₁₀, and PM_{2.5}. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called “fugitive emissions.” Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project applicant, the Project would require approximately 2,250 cubic yards of export for earthwork activities.

ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, vendors, and haul trucks commuting to and from the site. The number of worker, vendor, and hauling trips per phase is presented below in Table 2 and are based on information provided by the client and CalEEMod defaults.

TABLE 2: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	5	0	0
Grading	10	16	18

CONSTRUCTION DURATION

For purposes of analysis, construction of the Project is expected to commence in February 2027 and would last through March 2027. The construction schedule utilized in the analysis represents a “worst-case” analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis year increases due to emission regulations becoming more stringent¹. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (15).

TABLE 3: CONSTRUCTION DURATION

Construction Activity	Start Date	End Date	Days
Site Preparation	2/1/2027	2/19/2027	15
Grading	2/22/2027	3/15/2027	16

CONSTRUCTION EQUIPMENT

Equipment used for construction of the Project is shown in Table 4 and is based on information provided by the Project applicant, respectively. Consistent with industry standards and typical construction practices, each piece of equipment will operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the code.

TABLE 4: CONSTRUCTION EQUIPMENT

Construction Activity	Equipment	Quantity	Hours
Site Preparation	Excavators	1	8
Site Preparation	Tractors/Loaders/Backhoes	1	8
Grading	Off-Highway Trucks	3	8
Grading	Rollers	1	8

REGIONAL CONSTRUCTION EMISSIONS

The estimated maximum daily construction emissions without mitigation are summarized in Table 5. Under the assumed scenarios, emissions resulting from Project construction would not exceed thresholds established by the MDAQMD for emissions of any criteria pollutant. Project construction-source emissions impacts would therefore be less-than-significant. Detailed construction model outputs are presented in Appendix 1.

¹ As shown in the CalEEMod User’s Guide Version 2022, Appendix G “Table G-11. Statewide Average Annual Offroad Equipment Emission Factors” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 5: REGIONAL CONSTRUCTION EMISSIONS SUMMARY

Year	ROG	NOX	CO	SO2	PM10	PM2.5
Winter						
2027	1.54	10.07	10.88	0.05	0.92	0.45
Maximum Daily Emissions	1.54	10.07	10.88	0.05	0.92	0.45
MDAQMD Regional Threshold	137	137	548	137	82	65
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Notes:

CalEEMod construction-source (unmitigated) emissions are presented in Appendix 1.

REGIONAL OPERATIONAL EMISSIONS

The proposed Project primarily involves construction activities associated with improvements to support VVWRA's regional wastewater conveyance system, including installation of grouted riprap on the channel side slope along the easterly side of the existing grouted riprap channel, extension of the grouted riprap channel from the downstream end of the existing grouted riprap to the northern extent of the VVWRA pipeline easement, and installation of a loose riprap lined channel downstream of the proposed grouted riprap.

Long-term air quality impacts would occur from mobile-source emissions associated with Project-related operational traffic and from emissions associated with energy usage. For ongoing operations, the Project is not anticipated to require additional operational staff, and existing VVWRA personnel would be trained to the required level of certification. As such, operational activities would be limited to routine maintenance and monitoring, and operational emissions are anticipated to be less than significant.

AQMP

The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans for development projects is determined by demonstrating compliance the indicators discussed below:

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Local land use plans and/or population projections

The City of Victorville designates the Project site as "Open Space (OS)" land uses and "Exclusive Agricultural (A-E)" zoning uses. The OS designation refers to land that is to remain undeveloped due to severe development constraints, lake or river bodies and floodplains; and reserved public open space in parks, golf courses, or other lands with an open space that protect public safety and/or

conserve public resources (16). The AE designation is intended to protect agricultural areas from urban development or residential subdivision, and to serve as an open space area (17).

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On the basis of the preceding discussion, the Project is determined to be consistent with the AQMP and a less than significant impact is expected.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

All MDAQMD Rules and Regulations

The Project would be required to comply with all applicable MDAQMD Rules and Regulations, including, but not limited to Rules 401 (Visible Emissions), 402 (Nuisance), 403 (Fugitive Dust), and 1113 (Architectural Coatings). As previously stated, the Project would implement MDAQMD Rule 403 and MDAQMD Rule 1113.

AIR QUALITY IMPACTS – CONSISTENCY WITH THRESHOLD NO. 3

Demonstrating that the project will not increase the frequency or severity of a violation in the federal or state ambient air quality standards

As substantiated herein, Project construction and operational-source emissions would not exceed applicable MDAQMD significance thresholds. As such, the Project would not have the potential to increase the frequency or severity of a violation in the federal or state ambient air quality for on-going Project operations.

AQMP CONSISTENCY CONCLUSION

The Project's proposed land uses are consistent with the General Plan land use and zoning designation and the Project would not exceed the applicable regional thresholds during construction or operations for emissions of VOCs, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. Therefore, the Project is considered to have a less than significant impact. The Project is therefore considered to be consistent with the AQMP.

POTENTIAL IMPACT TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

As per the MDAQMD's *Guidelines*, the following project types located within a specified distance to an existing or planned sensitive receptor land use must be evaluated to determine exposure of substantial pollutant concentrations to sensitive receptors (14):

- Any industrial project within 1,000 feet;
- A distribution center (40 or more trucks per day) within 1,000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet;
- A dry cleaner using perchloroethylene within 500 feet;
- A gasoline dispensing facility within 300 feet.

The proposed Project's land uses do not include the above uses. As such, no analysis for sensitive receptors is required. Additionally, results of the regional analysis indicate that the Project will not exceed the MDAQMD significance thresholds during construction or operations. Therefore, sensitive receptors would not be subject to a significant air quality impact during Project construction and operational activities.

PROJECT GHG ANALYSIS

CLIMATE CHANGE SETTING

Global climate change (GCC) is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The majority of scientists believe that the climate shift taking place since the Industrial Revolution is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of GHGs in the earth's atmosphere, including carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated gases. The majority of scientists believe that this increased rate of climate change is the result of GHGs resulting from human activity and industrialization over the past 200 years.

An individual project like the proposed Project evaluated in this memo cannot generate enough GHG emissions to affect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of GHGs combined with the cumulative increase of all other sources of GHGs, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, this memo will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

GCC refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO₂, N₂O, CH₄, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the earth's atmosphere, but prevent radiative heat from escaping, thus warming the earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages.

Gases that trap heat in the atmosphere are often referred to as GHGs. GHGs are released into the atmosphere by both natural and anthropogenic activity. Without the natural GHG effect, the earth's average temperature would be approximately 61 degrees Fahrenheit (°F) cooler than it is currently.

The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

For the purposes of this analysis, emissions of CO₂, CH₄, and N₂O were evaluated because these gases are the primary contributors to GCC from development projects. Although there are other substances such as fluorinated gases that also contribute to GCC, these fluorinated gases were not evaluated as their sources are not well-defined and do not contain accepted emissions factors or methodology to accurately calculate these gases.

REGULATORY SETTING

Executive Order S-3-05

Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for GHG emissions:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80% below 1990 levels.

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill (AB) 32

The California State Legislature enacted AB 32, which requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "GHGs" as defined under AB 32 include CO₂, CH₄, N₂O, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. Pursuant to AB 32, CARB adopted regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 states the following:

"Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems."

CARB approved the 1990 GHG emissions level of 427 million metric ton of CO₂ equivalent per year (MMTCO₂e) on December 6, 2007 (18). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO₂e. Emissions in 2020 in a "business as usual" (BAU) scenario were estimated to be 596 MMTCO₂e, which do not account for reductions from AB 32 regulations (19). At that level, a 28.4% reduction was required to achieve the 427 MMTCO₂e 1990 inventory. In October 2010, CARB prepared an updated BAU 2020 forecast to account for the recession and slower forecasted growth. The forecasted inventory without the benefits of adopted

regulation is now estimated at 545 MMTCO₂e. Therefore, under the updated forecast, a 21.7% reduction from BAU is required to achieve 1990 levels (20).

Progress in Achieving AB 32 Targets and Remaining Reductions Required

The State has made steady progress in implementing AB 32 and achieving targets included in Executive Order S-3-05. The progress is shown in updated emission inventories prepared by CARB for 2000 through 2012 (21). The State has achieved the Executive Order S-3-05 target for 2010 of reducing GHG emissions to 2000 levels. As shown below, the 2010 emission inventory achieved this target.

- 1990: 427 MMTCO₂e (AB 32 2020 target)
- 2000: 463 MMTCO₂e (an average 8% reduction needed to achieve 1990 base)
- 2010: 450 MMTCO₂e (an average 5% reduction needed to achieve 1990 base)

CARB has also made substantial progress in achieving its goal of achieving 1990 emissions levels by 2020. As described earlier in this section, CARB revised the 2020 BAU inventory forecast to account for new lower growth projections, which resulted in a new lower reduction from BAU to achieve the 1990 base. The previous reduction from 2020 BAU needed to achieve 1990 levels was 28.4% and the latest reduction from 2020 BAU is 21.7%.

- 2020: 545 MMTCO₂e BAU (an average 21.7% reduction from BAU needed to achieve 1990 base)

Senate Bill (SB) 32

On September 8, 2016, Governor Jerry Brown signed the SB 32 and its companion bill, AB 197. SB 32 requires the state to reduce statewide GHG emissions to 40% below 1990 levels by 2030, a reduction target that was first introduced in Executive Order B-30-15. The new legislation builds upon the AB 32 goal of 1990 levels by 2020 and provides an intermediate goal to achieving S-3-05, which sets a statewide GHG reduction target of 80% below 1990 levels by 2050. AB 197 creates a legislative committee to oversee regulators to ensure that CARB not only responds to the Governor, but also the Legislature (22).

AB 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

Executive Order B-55-18 and SB 100

Executive Order B-55-18 and SB 100. SB 100 and Executive Order B-55-18 were signed by Governor Brown on September 10, 2018. Under the existing RPS, 25% of retail sales are required to be from renewable sources by December 31, 2016, 33% by December 31, 2020, 40% by December 31, 2024, 45% by December 31, 2027, and 50% by December 31, 2030. SB 100 raises California's RPS requirement to 50% renewable resources target by December 31, 2026, and to achieve a 60% target by December 31, 2030. SB 100 also requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy

resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44% of retail sales by December 31, 2024, 52% by December 31, 2027, and 60% by December 31, 2030. In addition to targets under AB 32 and SB 32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency (CNRA), California Environmental Protection Agency (CalEPA), the Department of Food and Agriculture (CDFA), and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Title 24 California Code of Regulations (CCR)

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2025 California Green Building Code Standards that became effect on January 1, 2026. The Project would be required to comply with the applicable standards in place at the time plan check submittals are made.

PROJECT GHG IMPACTS

City of Victorville Climate Action Plan (CAP)

The City prepared a CAP in September 2015 to present GHG inventories, identify the effectiveness of California initiatives to reduce GHG emissions, and identify local measures selected by the City to reduce GHG emissions under the City's jurisdictional control to achieve the City's identified AB 32 2020 GHG reduction target. However, it should be noted that the City's CAP does not align with the statewide goals beyond 2020. Consequently, the City is currently working with the San Bernardino County Transportation Authority (SBCTA) to update the City's current CAP to address SB 32 and post-2020 GHG emission reductions.

Following the County's adoption of the Greenhouse Gas Reduction Plan Update on September 21, 2021, as part of SB 32, the City has implemented a screening table to align with the updated guidelines. In 2021, the County updated the GHG Review Process and Screening Tables. The San Bernardino County Regional Greenhouse Gas Reduction Plan highlights the 25 Partnership Cities, including Victorville, that partnered together to integrate the 100-point system currently used for GHG reduction initiatives.

The City has prepared a CAP, which provides a framework for reducing GHG emissions and managing resources to best prepare for a changing climate (23). In order to determine consistency with the CAP, the City of Victorville provided Screening Tables to aid in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The CAP establishes categories of GHG reduction measures to reduce GHG emissions generated by development projects. CAP GHG reduction measure categories include: energy

conservation, water use reduction, increased residential density or mixed uses, transportation management, and solid waste recycling. Within each category, individual sub-measures are assigned a point value under the city's GHG Measures Screening Table. The point values are adjusted according to the intensity of GHG reduction measure. "Modest" Measures that reduce GHG emissions by modest amounts are worth the least number of points; and enhanced GHG emissions reduction measures are worth the most points. Projects that yield at least 100 points are determined to be consistent with the CAP. As such, projects that achieve a total of 100 points or more do not require quantification of project specific GHG emissions and, consistent with CEQA Guidelines, such projects are considered to have a less than significant individual and cumulative impact on GHG emissions.

Moreover, projects that are consistent with an adopted CAP may be found to cause a less than significant impact under CEQA. (CEQA Guidelines § 15064(h)(3)). Projects that are consistent with adopted CAPs are also considered to support and would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. The Project is substantiated herein to be consistent with the CAP. Project GHG emissions impacts on the environment are therefore considered less-than-significant. Additionally, because the Project is substantiated to be consistent with the CAP, the Project would not conflict with an applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. Additionally, it should be noted that an update to the Screening Table is underway. The City along with other local jurisdictions has coordinated with SBCTA on an updated Screening Table, which is currently pending approval by SBCTA.

City of Victorville Greenhouse Gas Reduction Plan (GGRP)

To meet the intent of SB 32, the City has adopted the 2021 GGRP to implement General Plan policies focused on GHG emissions. The GGRP sets an aggressive goal to reduce GHG emissions by 55% below 2008 baseline GHG emission levels. In order to achieve this goal, the GGRP will require 100% of new industrial buildings to install a portion of on-site renewable electrical generation.

STANDARDS OF SIGNIFICANCE

According to the CEQA Guidelines Appendix G thresholds, to determine whether impacts from GHG emissions are significant. Would the project:

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

The evaluation of an impact under CEQA requires measuring data from a project against both existing conditions and a "threshold of significance." For establishing significance thresholds, the Office of Planning and Research's amendments to the CEQA Guidelines Section 15064.7(c) state "[w]hen adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies, or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence."

CEQA Guidelines Section 15064.4(a) further states, ". . . A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to

quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance-based standards.”

CEQA Guidelines Section 15064.4 provides that a lead agency should consider the following factors, among others, in assessing the significance of impacts from greenhouse gas emissions:

- Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
- Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project’s incremental contribution of greenhouse gas emissions. In determining the significance of impacts, the lead agency may consider a project’s consistency with the State’s long-term climate goals or strategies, provided that substantial evidence supports the agency’s analysis of how those goals or strategies address the project’s incremental contribution to climate change and its conclusion that the project’s incremental contribution is not cumulatively considerable.

DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS

According to the MDAQMD’s CEQA and Federal Conformity Guidelines, a project is significant if it triggers or exceeds the most appropriate evaluation criteria. The MDAQMD states that in general, for GHG emissions, the significance emission threshold of 100,000 Tons CO₂e per year (90,718.5 MTCO₂e/yr) is sufficient (24). A significant project must incorporate mitigation sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 1

Would the Project have the potential to generate direct or indirect GHG emissions that would result in a significant impact on the environment?

PROJECT GHG EMISSIONS SUMMARY

The estimated GHG emissions for Project are summarized in Table 6. The estimated GHG emissions include emissions from Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), and Refrigerants (R). As shown in Table 6, the Project would generate a total of approximately 1.56 MTCO₂e/yr, which would not exceed the MDAQMD screening threshold of 90,718.5 MTCO₂e/yr. This would be considered a less than significant impact. Detailed construction model outputs are presented in Appendix 1.

TABLE 6: TOTAL PROJECT GHG EMISSIONS

Source	Total CO ₂ E
Annual Construction Emissions Amortized Over 30 Years	1.56
Total	1.56
Screening Threshold	90,718.5
Threshold Exceeded?	NO

Notes:

CalEEMod construction-source (unmitigated) emissions are presented in Appendix 1.

GHG IMPACTS – CONSISTENCY WITH THRESHOLD NO. 2

Would the Project have the potential to conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs?

Pursuant to 15604.4 of the CEQA Guidelines, a lead agency may rely on qualitative analysis or performance-based standards to determine the significance of impacts from GHG emissions (25).

The 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas (GHG) emissions by 85% below 1990 levels no later than 2045, as directed by Assembly Bill 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 short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon (26).

Consistency with City of Victorville CAP

In order to determine consistency with the CAP, the City of Victorville provided Screening Tables to aid in measuring the reduction of GHG emissions attributable to certain design and construction measures incorporated into development projects. The CAP checklist measures are geared towards buildings and Projects that yield at least 100 points are determined to be consistent with the CAP. As such, projects that achieve a total of 100 points or more do not require quantification of project specific GHG emissions and, consistent with CEQA Guidelines, such projects are considered to have a less than significant individual and cumulative impact on GHG emissions. As mentioned previously, the CAP checklist measures are geared towards buildings, the Project proposes a truck and trailer parking/drop lot, as such the CAP would not be applicable to the proposed Project.

The Project's long-term operational GHG emissions would not exceed the significance threshold of 90,718.5 MTCO₂e/yr. As such, a less than significant impact would occur as a result of the proposed Project.

CONCLUSION

In summary, the results of the assessment indicate that the Project would result in a less than significant with respect to air quality and GHGs.

If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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APPENDIX 1:

CALEEMOD EMISSIONS MODEL OUTPUTS

17078 - Ossum Wash Repair Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	17078 - Ossum Wash Repair
Construction Start Date	2/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	5.00000
Precipitation (days)	12.4000
Location	34.573024446607235, -117.33141333913929
County	San Bernardino-Mojave Desert
City	Victorville
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5184
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.45

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
User Defined Parking	0.76000	User Defined Unit	0.76000	0.00000	0.00000	—	—	—

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.	1.83109	1.54017	10.0695	10.8834	0.05036	0.32390	0.59135	0.91525	0.30043	0.15087	0.45130	—	5,905.26	5,905.26	0.17218	0.28820	0.09899	5,995.55
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.09052	0.07619	0.51672	0.61062	0.00237	0.01630	0.02841	0.04472	0.01511	0.00719	0.02230	—	279.365	279.365	0.00831	0.01288	0.07615	283.487
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01652	0.01390	0.09430	0.11144	0.00043	0.00298	0.00519	0.00816	0.00276	0.00131	0.00407	—	46.2521	46.2521	0.00138	0.00213	0.01261	46.9345

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.83109	1.54017	10.0695	10.8834	0.05036	0.32390	0.59135	0.91525	0.30043	0.15087	0.45130	—	5,905.26	5,905.26	0.17218	0.28820	0.09899	5,995.55
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09052	0.07619	0.51672	0.61062	0.00237	0.01630	0.02841	0.04472	0.01511	0.00719	0.02230	—	279.365	279.365	0.00831	0.01288	0.07615	283.487
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01652	0.01390	0.09430	0.11144	0.00043	0.00298	0.00519	0.00816	0.00276	0.00131	0.00407	—	46.2521	46.2521	0.00138	0.00213	0.01261	46.9345

2.2.2. Onsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2027	1.73973	1.46186	8.15830	9.90098	0.03825	0.29339	0.00475	0.29814	0.26992	0.00072	0.27064	—	4,140.93	4,140.93	0.16797	0.03359	0.00000	4,155.14
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.08547	0.07182	0.43172	0.55438	0.00184	0.01497	0.00021	0.01518	0.01377	0.00003	0.01380	—	199.275	199.275	0.00808	0.00162	0.00000	199.959
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.01560	0.01311	0.07879	0.10117	0.00034	0.00273	0.00004	0.00277	0.00251	0.00001	0.00252	—	32.9922	32.9922	0.00134	0.00027	0.00000	33.1055

2.2.3. Offsite 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.09136	0.07832	1.91116	0.98241	0.01211	0.03051	0.58660	0.61711	0.03051	0.15015	0.18066	—	1,764.34	1,764.34	0.00421	0.25461	0.09899	1,840.42
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00504	0.00437	0.08500	0.05624	0.00053	0.00134	0.02821	0.02954	0.00134	0.00716	0.00850	—	80.0903	80.0903	0.00023	0.01126	0.07615	83.5284
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.00092	0.00080	0.01551	0.01026	0.00010	0.00024	0.00515	0.00539	0.00024	0.00131	0.00155	—	13.2599	13.2599	0.00004	0.00186	0.01261	13.8291

3. Construction Emissions Details

3.1. Site Preparation (2027)

3.1.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22414	0.18834	1.80311	2.92880	0.00399	0.05125	—	0.05125	0.04715	—	0.04715	—	432.037	432.037	0.01753	0.00351	—	433.520
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00921	0.00774	0.07410	0.12036	0.00016	0.00211	—	0.00211	0.00194	—	0.00194	—	17.7549	17.7549	0.00072	0.00014	—	17.8159
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00168	0.00141	0.01352	0.02197	0.00003	0.00038	—	0.00038	0.00035	—	0.00035	—	2.93953	2.93953	0.00012	0.00002	—	2.94962
Dust From Material Movement	—	—	—	—	—	—	0.00000	0.00000	—	0.00000	0.00000	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02287	0.02039	0.02199	0.23937	0.00000	0.00000	0.06535	0.06535	0.00000	0.01532	0.01532	—	62.2259	62.2259	0.00099	0.00248	0.00566	62.9955
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Worker	0.00094	0.00084	0.00099	0.01101	0.00000	0.00000	0.00266	0.00266	0.00000	0.00062	0.00062	—	2.63238	2.63238	0.00004	0.00010	0.00388	2.66766
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00017	0.00015	0.00018	0.00201	0.00000	0.00000	0.00049	0.00049	0.00000	0.00011	0.00011	—	0.43582	0.43582	0.00001	0.00002	0.00064	0.44166
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2. Grading (2027)

3.2.1. Onsite - 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
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.73973	1.46186	8.15830	9.90098	0.03825	0.29339	—	0.29339	0.26992	—	0.26992	—	4,140.93	4,140.93	0.16797	0.03359	—	4,155.14
Dust From Material Movement	—	—	—	—	—	—	0.00475	0.00475	—	0.00072	0.00072	—	—	—	—	—	—	—

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Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07626	0.06408	0.35762	0.43402	0.00168	0.01286	—	0.01286	0.01183	—	0.01183	—	181.520	181.520	0.00736	0.00147	—	182.143
Dust From Material Movement	—	—	—	—	—	—	0.00021	0.00021	—	0.00003	0.00003	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01392	0.01169	0.06527	0.07921	0.00031	0.00235	—	0.00235	0.00216	—	0.00216	—	30.0527	30.0527	0.00122	0.00024	—	30.1558
Dust From Material Movement	—	—	—	—	—	—	0.00004	0.00004	—	0.00001	0.00001	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

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

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Location	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04575	0.04079	0.04398	0.47873	0.00000	0.00000	0.13071	0.13071	0.00000	0.03064	0.03064	—	124.452	124.452	0.00198	0.00496	0.01131	125.991
Vendor	0.01919	0.01383	0.50914	0.20875	0.00395	0.00720	0.13689	0.14409	0.00720	0.03782	0.04502	—	489.339	489.339	0.00106	0.06469	0.02922	508.673
Hauling	0.02642	0.02370	1.35803	0.29492	0.00816	0.02331	0.31900	0.34231	0.02331	0.08169	0.10501	—	1,150.55	1,150.55	0.00117	0.18496	0.05845	1,205.75
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00201	0.00179	0.00211	0.02348	0.00000	0.00000	0.00568	0.00568	0.00000	0.00133	0.00133	—	5.61574	5.61574	0.00009	0.00022	0.00828	5.69100
Vendor	0.00087	0.00064	0.02232	0.00903	0.00017	0.00032	0.00596	0.00628	0.00032	0.00165	0.00196	—	21.4366	21.4366	0.00005	0.00284	0.02131	22.3041
Hauling	0.00123	0.00111	0.05958	0.01272	0.00036	0.00102	0.01390	0.01492	0.00102	0.00356	0.00458	—	50.4056	50.4056	0.00005	0.00811	0.04267	52.8656
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00037	0.00033	0.00038	0.00429	0.00000	0.00000	0.00104	0.00104	0.00000	0.00024	0.00024	—	0.92975	0.92975	0.00001	0.00004	0.00137	0.94221
Vendor	0.00016	0.00012	0.00407	0.00165	0.00003	0.00006	0.00109	0.00115	0.00006	0.00030	0.00036	—	3.54907	3.54907	0.00001	0.00047	0.00353	3.69270
Hauling	0.00022	0.00020	0.01087	0.00232	0.00007	0.00019	0.00254	0.00272	0.00019	0.00065	0.00084	—	8.34522	8.34522	0.00001	0.00134	0.00707	8.75251

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
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
Site Preparation	Site Preparation	2/1/2027	2/19/2027	5.00000	15.0000	1
Grading	Grading	2/22/2027	3/15/2027	5.00000	16.0000	2

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Excavators	Diesel	Average	1.000000	8.00000	36.0000	0.38000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	1.000000	8.00000	84.0000	0.37000
Grading	Off-Highway Trucks	Diesel	Average	3.00000	8.00000	376.000	0.38000
Grading	Rollers	Diesel	Average	1.000000	8.00000	36.0000	0.38000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	5.00000	18.5000	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00000	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.00000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	16.0000	10.2000	HHDT,MHDT
Grading	Hauling	17.6250	20.0000	HHDT
Grading	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

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.00000	0.00000	0.00000
Grading	—	2,250.00	0.00000	0.00000	0.00000

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	531.983	0.03300	0.00400

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	33.7100	annual days of extreme heat
Extreme Precipitation	0.05000	annual days with precipitation above 20 mm

Climate Hazard	Result for Project Location	Unit
Sea Level Rise	—	meters of inundation depth
Wildfire	0.14000	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

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	4	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	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	4	1	1	4
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	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	84.6297
AQ-PM	6.96951
AQ-DPM	3.23584
Drinking Water	60.2972
Lead Risk Housing	43.2640
Pesticides	43.4828
Toxic Releases	26.0440
Traffic	5.26250
Effect Indicators	—
CleanUp Sites	88.2792
Groundwater	71.8081
Haz Waste Facilities/Generators	94.4408
Impaired Water Bodies	51.2180
Solid Waste	72.3940
Sensitive Population	—
Asthma	88.0608
Cardio-vascular	99.6386
Low Birth Weights	64.1776
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	84.8393
Housing	77.5792
Linguistic	69.7929
Poverty	93.1784
Unemployment	88.6778

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	5.838573078
Employed	0.179648402
Median HI	1.424355191
Education	—
Bachelor's or higher	10.07314256
High school enrollment	100
Preschool enrollment	10.97138458
Transportation	—
Auto Access	34.2871808
Active commuting	2.399589375
Social	—

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Indicator	Result for Project Census Tract
2-parent households	21.86577698
Voting	16.77146157
Neighborhood	—
Alcohol availability	93.53265751
Park access	6.877967407
Retail density	4.504042089
Supermarket access	2.399589375
Tree canopy	0.089824201
Housing	—
Homeownership	43.48774541
Housing habitability	26.22866675
Low-inc homeowner severe housing cost burden	67.79160785
Low-inc renter severe housing cost burden	0.295136661
Uncrowded housing	44.92493263
Health Outcomes	—
Insured adults	12.17759528
Arthritis	2.7
Asthma ER Admissions	7.4
High Blood Pressure	6.0
Cancer (excluding skin)	32.7
Asthma	1.7

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Indicator	Result for Project Census Tract
Coronary Heart Disease	2.7
Chronic Obstructive Pulmonary Disease	0.4
Diagnosed Diabetes	6.3
Life Expectancy at Birth	15.8
Cognitively Disabled	24.2
Physically Disabled	71.5
Heart Attack ER Admissions	1.0
Mental Health Not Good	3.8
Chronic Kidney Disease	5.2
Obesity	15.0
Pedestrian Injuries	19.6
Physical Health Not Good	2.6
Stroke	3.3
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	0.7
No Leisure Time for Physical Activity	11.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	19.0

Indicator	Result for Project Census Tract
Elderly	85.6
English Speaking	37.4
Foreign-born	40.5
Outdoor Workers	7.2
Climate Change Adaptive Capacity	—
Impervious Surface Cover	88.7
Traffic Density	5.6
Traffic Access	23.0
Other Indices	—
Hardship	87.5
Other Decision Support	—
2016 Voting	26.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	89.0000
Healthy Places Index Score for Project Location (b)	1.000000
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

8.1. Justifications

Screen	Justification
Land Use	Total Project site is about 0.76 acres.
Construction: Construction Phases	Based on the Project Description, construction duration to span up to 6 weeks.
Construction: Off-Road Equipment	Equipment list based on Project Description. Standard 8 hours work days.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	0.00000	0.76000
Landscape Area	sq. ft	—	0.00000

8.4. Construction

8.4.1. Construction Phases

Phase Type	Phase Name	Model Parameter	Default Value	New Value
Site Preparation	Site Preparation	Start Date	2/16/2027	2/1/2027
Site Preparation	Site Preparation	End Date	2/17/2027	2/19/2027
Site Preparation	Site Preparation	Work Days per Phase	1.000000	15.0000
Site Preparation	Site Preparation	Description	—	1
Grading	Grading	Start Date	2/18/2027	2/22/2027
Grading	Grading	End Date	2/20/2027	3/15/2027
Grading	Grading	Work Days per Phase	2.00000	16.0000
Grading	Grading	Description	—	2

8.4.2. Off-Road Equipment

Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Site Preparation	Excavators	Horsepower	148.000	36.0000
Site Preparation	Excavators	Load Factor	0.41000	0.38000
Grading	Off-Highway Trucks	Number per Day	1.000000	3.00000
Grading	Off-Highway Trucks	Hours Per Day	6.00000	8.00000
Grading	Off-Highway Trucks	Horsepower	148.000	376.000
Grading	Off-Highway Trucks	Load Factor	0.41000	0.38000
Grading	Rollers	Hours Per Day	6.00000	8.00000
Grading	Rollers	Horsepower	367.000	36.0000

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Phase Name	Equipment Type	Model Parameter	Default Value	New Value
Grading	Rollers	Load Factor	0.40000	0.38000