Heritage Ranch Water Resource Recovery Facility Project

Final Initial Study – Mitigated Negative Declaration

prepared by

Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446
Contact: Scott B. Duffield, P.E., General Manager

prepared with the assistance of

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

January 2024

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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1 Initial Study

1.1 Project Title

Heritage Ranch Water Resource Recovery Facility Project

1.2 Lead Agency Name and Address

Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446

1.3 Contact Person and Phone Number

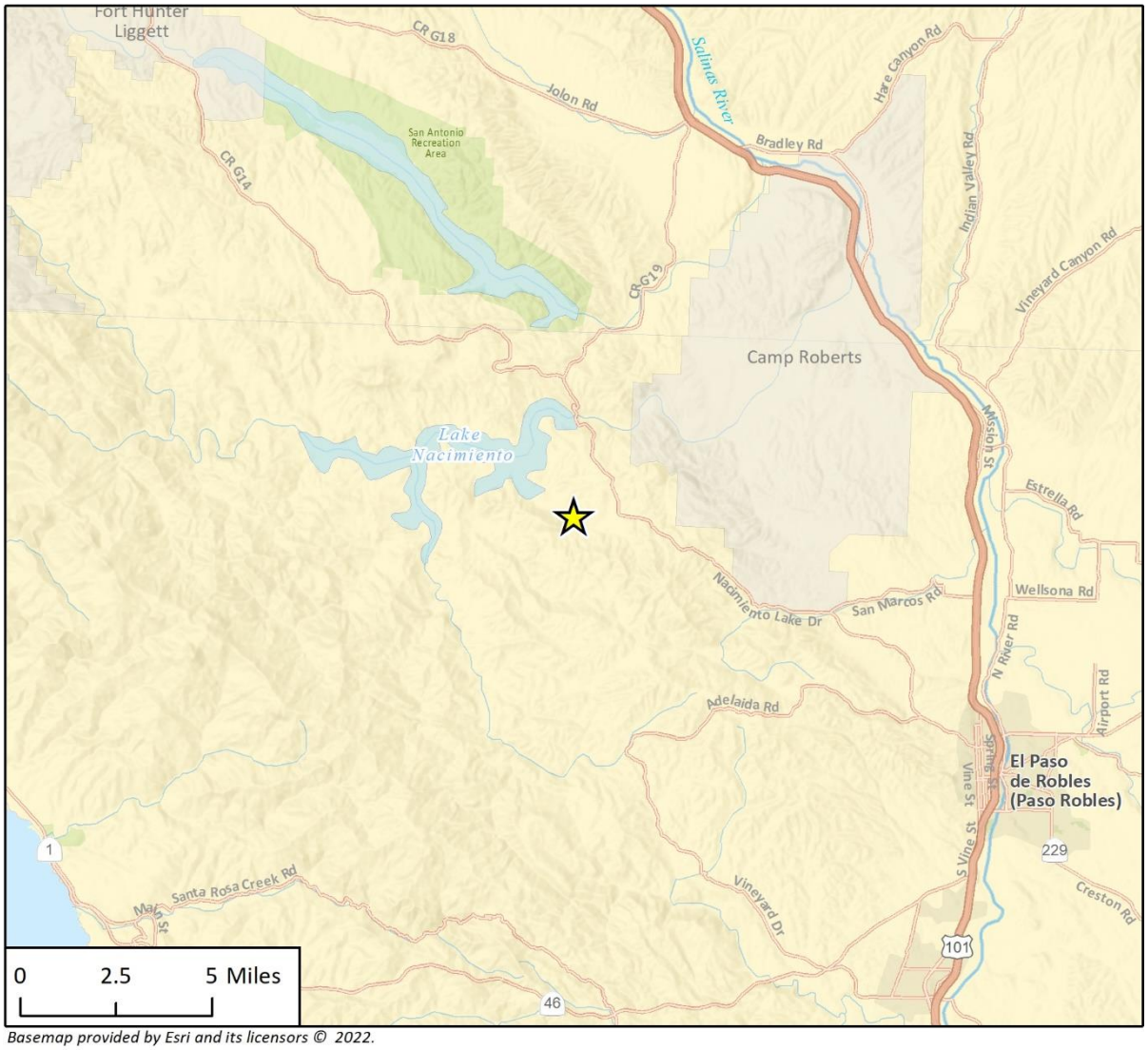
Scott B. Duffield, P.E., General Manager
(805) 227-6230

1.4 Project Location

The project site is located in Lake Nacimiento, a census-designated place in unincorporated San Luis Obispo County, and is comprised of the existing Heritage Ranch Community Services District (HRCSD) wastewater treatment plant, a replacement effluent pipeline alignment, and an existing HRCSD spray field. The wastewater treatment plant location (Assessor's Parcel Number [APN] 012-181-085) is comprised of an approximately 5.5-acre site at 4870 Heritage Road in Paso Robles, and the spray field location (APN 012-361-018) is comprised of an approximately 1.6-acre site at the end of a private road that proceeds from the northern terminus of Parkway Circle. Both parcels are owned by HRCSD. The replacement effluent pipeline alignment is comprised of an approximately 2,800-linear-foot alignment along Heritage Road and Gateway Drive. The alignment proceeds from the southeastern corner of the wastewater treatment plant location on Heritage Road, south to Gateway Drive, and east on Gateway Drive to the Gateway Drive and Longhorn Lane intersection.

The rights-of-way in front of the wastewater treatment plant location and along the replacement effluent pipeline alignment are under the jurisdiction of the Heritage Ranch Owners Association, who would be responsible for granting new or updated easements for project facilities within the rights-of-way. The wastewater treatment plant location is in Section 27, Township 25 South, Range 10 East, and the spray field location is in Township 25 South, Range 10 East. The project site does not include Formally Classified Lands, which are defined in 7 Code of Federal Regulations (CFR) Section 1970.555 to include certain protected properties administered by federal, state, or local agencies or those that have been given special protection through formal legislative designation and include National Parks, wilderness areas, state or national forests, wild and scenic rivers, and the Coastal Zone. See Figure 1 for a map of the regional project location, and Figure 2 and Figure 3 for maps of the project site locations in a local context. Figure 4 presents representative site photographs of the existing project site and facilities.

Figure 1 Regional Project Location



Basemap provided by Esri and its licensors © 2022.

Project Location

N

Figure 2 Project Site Location – Wastewater Treatment Plant (APN 012-181-085) and Effluent Pipeline Alignment

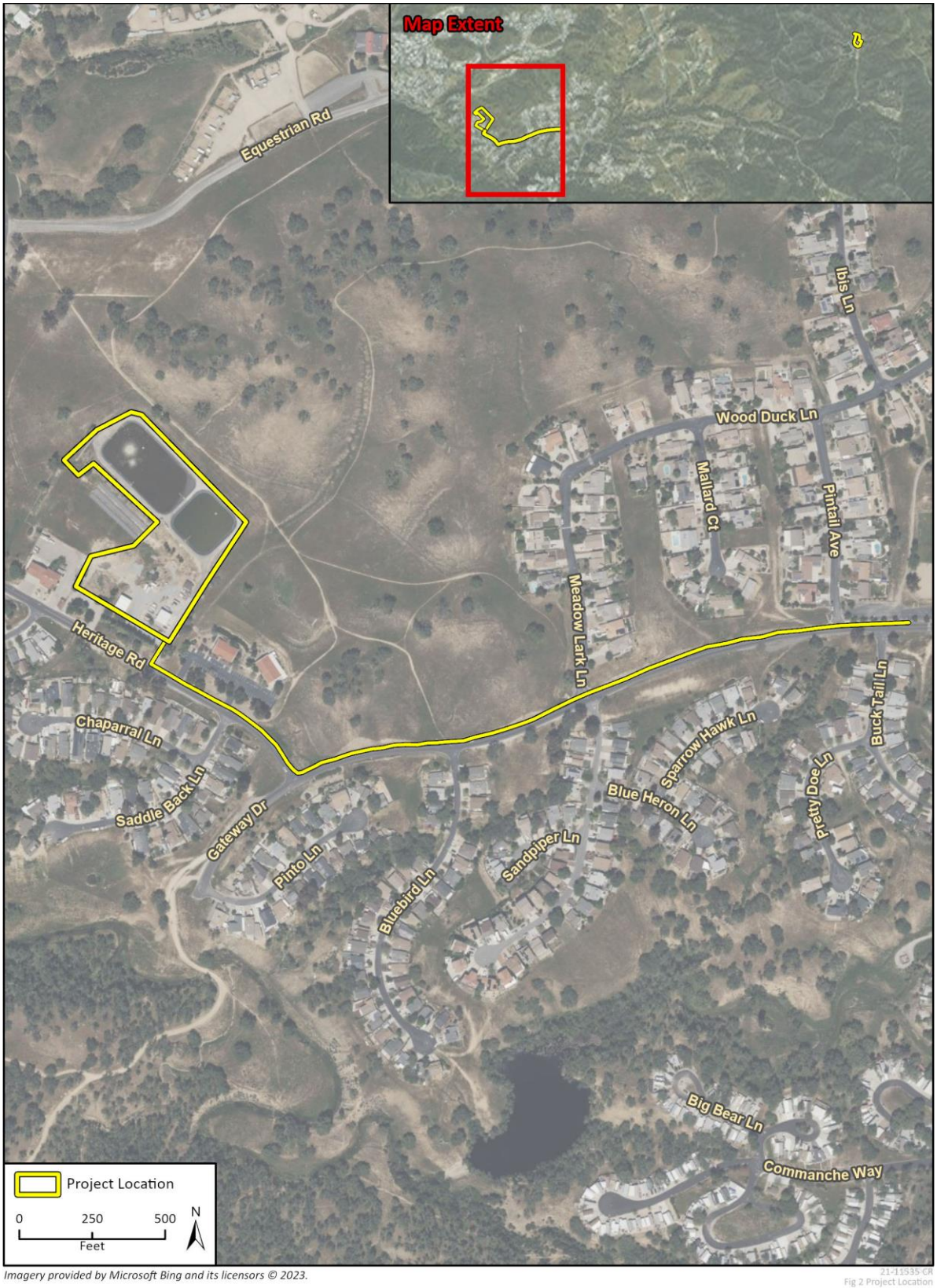


Figure 3 Project Site Location – Spray Field (APN 012-361-018)

Imagery provided by Microsoft Bing and its licensors © 2023.

21-11535 EPS
Fig 2 Project Location

Figure 4 Representative Site Photographs

Photograph 1. Existing HRCSD Wastewater Treatment Ponds, Facing Southwest.

Photograph 2. Existing HRCSD Wastewater Treatment Plant Support Structures, Facing South.

Photograph 3. Existing Dechlorination Facilities at Spray Field.

Photograph 4. Existing Sand Filters at Spray Field, Facing Southwest.

1.5 Project Sponsor's Name and Address

Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446

1.6 General Plan Designation

The wastewater treatment plant location and spray field location have a General Plan land use designation of Public Facilities. The effluent pipeline alignment is within the public right-of-way and therefore does not have a General Plan land use designation.

1.7 Zoning

None of the project component locations has a zoning designation because the County of San Luis Obispo (County) does not assign zoning designations to parcels in the unincorporated county. However, the County does assign combining designations, which are used to identify and highlight areas of the county having natural or built features which are sensitive, hazardous, fragile, of cultural or educational value, or of economic value as extractable natural resources (San Luis Obispo County Code [SLOCC] Section 22.14.010). Both parcels have a combining designation of Geologic Study Area, and a small portion of APN 012-361-018 has a combining designation of Renewable Energy, which extends into the existing spray field. The Geologic Study Area combining designation is applied to areas where geologic and soil conditions could present new developments and their users with potential hazards to life and property (SLOCC Section 22.14.070). The Renewable Energy combining designation is used to encourage and support the development of local renewable energy resources, conserving energy resources and decreasing reliance on environmentally costly energy sources (SLOCC Section 22.14.100). The effluent pipeline alignment is within the public right-of-way and therefore does not have assigned combining designations.

1.8 Description of Project

Background

The HRCSD received a new Waste Discharge Requirements (WDR) from the Central Coast Regional Water Quality Control Board (RWQCB) in September 2017 (Waste Discharge Order No. R3-2017-0026). HRCSD was unable to meet the standards in the WDR for copper, nitrate, and un-ionized ammonia. As a result, HRCSD received a Time Schedule Order from the Central Coast RWQCB in May 2018 (R3-2018-0011), which granted HRCSD five years to make necessary process improvements to achieve compliance with its WDR. HRCSD spent the next few years making process adjustments but remained unable to achieve compliance. In April 2021, a preliminary engineering memorandum determined the existing treatment ponds lacked capacity to treat wastewater to meet discharge requirements. In light of these results, HRCSD determined replacement of its existing treatment process was necessary and requested an additional Time Schedule Order from the Central Coast RWQCB. The updated Time Schedule Order (TSO R3-2022-0046) went into effect on October 14, 2022 and is the final time extension available to HRCSD, which grants it five years to complete construction and commissioning of new treatment processes.

Project Components

The Heritage Ranch Water Resource Recovery Facility (WRRF) Project (herein referred to as "proposed project" or "project") includes upgrades to the existing HRCSD wastewater treatment plant, effluent pipeline, and spray field to comply with Waste Discharge Order No. R3-2017-0026. The overall pipeline alignment corridor for influent to the existing HRCSD wastewater treatment plant location would remain unchanged from existing conditions. The proposed project is intended bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed project would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity).

Water Resource Recovery Facility

The proposed project would include modification and demolition of the existing HRCSD wastewater treatment plant elements and construction of new WRRF elements with an average annual daily flow capacity of approximately 0.29 million gallons per day. The WRRF would produce tertiary treated effluent, a portion of which may be re-used in on-site processes. The WRRF would include the following facilities and treatment technologies:

- Process Control - equalization basin and site pumping stations
- Preliminary Treatment - coarse/bar screens and grit removal
- Secondary Treatment - fine screens and Modified Ludzack-Ettinger (MLE) Activated Sludge Process with Membrane Bioreactor (MBR)
- Tertiary treatment - chlorine disinfection and chemical storage area
- Solids handling - thickening, dewatering, and storage; potentially stabilization and digestion; odor control for dewatered solids (e.g., blower)
- Disposal system - on-site storage facilities and a pump station
- Supervisory control and data acquisition (SCADA) system

In addition to treatment process infrastructure, the WRRF would include supporting facilities necessary to operate, maintain, secure, and preserve the site. These supporting facilities would consist of an approximately 1,200-square-foot (sf) office space to provide administrative support; an approximately 500- to 750-sf standby power generation enclosure for emergency backup power supply; an approximately 800-sf electrical building to house electrical and control equipment; and safety and spill prevention structures. A 350-kilowatt (kW) diesel backup generator (similar or equivalent to a CAT D350 GC generator) would be installed for use during power outages and other emergency situations. Heating, ventilation, and air conditioning (HVAC) equipment would be installed at the proposed office and electrical buildings as well as any other enclosed spaces.

Wastewater Discharge

The proposed project includes installation of a new, eight-inch-diameter effluent pipeline between the southeastern corner of the wastewater treatment plant location and the Gateway Drive and Longhorn Lane intersection. This replacement effluent pipeline would replace the existing, aging six-inch-diameter pipeline, which does not meet current design pressure requirements and would be abandoned in place. The replacement effluent pipeline would be located between the existing

pipeline and the nearest edge of pavement, approximately five feet from the edge of the pavement and within the paved roadway.

The replacement effluent pipeline in conjunction with the existing force main east of its terminus would convey secondary treated effluent to the outfall located at the existing spray field location at 35.730833°N, 120.839167 °W. The average annual flow of the WWRF (approximately 325 acre-feet per year) would be discharged to the outfall. As part of the proposed project, modifications at the spray field location would consist of demolition and abandonment of the sand filters in use at the existing spray field and replacement of the de-chlorination facilities with a more robust de-chlorination process. No modifications to the storage pond located adjacent to the existing spray field would occur, and discharges to the storage pond would remain the same as under existing conditions.

Construction

Construction of the proposed project would occur over an approximately three-year period between approximately June 2024 and August 2027. Construction activities would typically occur Monday through Friday from 8:00 a.m. to 5:00 p.m. Project construction activities would be subject to the requirements of the statewide National Pollutant Discharge Elimination System (NPDES) Construction General Permit, which include preparation of a Stormwater Pollution Prevention Plan (SWPPP). Construction equipment and materials staging along with construction worker parking would occur within the project site. Approximately ten to 25 construction workers would be on site on any given day. If encroachment permitting is required, traffic control plans would be prepared for work within the Heritage Ranch Owners' Association rights-of-way.

Water Resource Recovery Facility and Spray Field

Construction activities at the wastewater treatment plant and spray field locations would consist of demolition, site preparation, grading, building construction, infrastructure installation, paving, site restoration, and architectural coating. In addition, rock breaking/processing might be required. Rock breaking could occur at the influent splitter box and influent pipelines. Rock breaking would be accomplished by an excavator and rock breakers if hard rock is encountered. Rock breaking would potentially occur twice with the first instance less than a week in duration and the latter instance several weeks in duration. Crushed rock would be used as fill on site. The maximum depth of excavation would be approximately 15 feet, and approximately 4,000 cubic yards of soil would be excavated and used on site as fill material. Delivery and haul trucks would access the site from Heritage Road, and temporary lane closures may be required when large trucks are entering or exiting the site.

The project would require demolition of the existing chlorine chemical storage structure, storage shed, fuel tanks shed, and effluent pump station. Approximately one to two truck trips per week would occur during construction to export debris to the San Miguel Garbage Company located at 6625 Benton Road in Paso Robles. In addition, some vegetation and tree removal would be required to accommodate the proposed WRRF, including removal of grasses and several small oaks previously planted by HRCSD staff. On-site utilities such as electrical, sewer, and water lines would likely be demolished or relocated within the project site.

Replacement Effluent Pipeline

Construction activities for the replacement effluent pipeline would consist of demolition/pavement cutting, site preparation, trenching, pipeline installation and paving/site restoration. The replacement

pipeline would be installed via open trenching methods, and the trench would be approximately two feet wide. The work area along the alignment would typically be approximately 15 feet wide by 300 feet long, and approximately 200 linear feet of pipeline would be installed per day. The maximum depth of excavation would be approximately 4.25 feet. Approximately 1,165 cubic yards of soil would be excavated with approximately 1,025 cubic yards used on site as fill material. Approximately 140 cubic yards of soil material would be exported, and approximately 140 cubic yards of fill material for pipe bedding would be imported. Installation of the effluent pipeline would require temporary single-lane closures along Heritage Road and Gateway Drive for approximately three months to accommodate trenching and pipeline installation within public rights-of-way.

Operation and Maintenance

General Characteristics

The facility would operate 24 hours per day, 365 days per year. Maintenance staff would visit the wastewater treatment plant and spray field locations daily, which would represent a slight increase from the current maintenance regime. In addition, approximately four to five additional vehicles would visit the project site each month for purposes such as chemical deliveries. Operations and maintenance activities for the replacement effluent pipeline would be periodic and comparable to operations and maintenance activities conducted for the existing pipeline that would be replaced.

Project operation would consume approximately 745,000 kilowatt-hours (kWh) per year, which would represent an increase of approximately 253,000 kWh per year as compared to existing conditions. The existing solar array at the HRCSD wastewater treatment plant would be utilized to supply approximately 300,000 kWh per year of the WRRF's total electricity demand with renewable energy. The backup generator would be tested upon initial start-up and on a monthly basis thereafter with each testing event lasting for approximately two to four hours.

The project would include exterior lighting, which would consist of constant nighttime access lighting for roadways within the WRRF as well as motion-activated and manual lighting around each treatment process area, which are expected to be used once per week. All lighting on site would be dark sky-rated fixtures/types.

Chemical Storage

During operation, chemicals would be added throughout the wastewater treatment process to provide an alkalinity source, control odors, improve sludge conditioning, disinfect the water, and clean the MBR membranes. Alkalinity chemicals such as sodium hydroxide or magnesium hydroxide would be stored in two identical double-walled tanks at the WRRF and delivered to the aeration basins through a pump system. Citric acid, sodium hypochlorite, sodium hydroxide, or similar cleaning chemicals would be used intermittently to perform preventive maintenance cleanings on the MBR units by removing organic and inorganic matter. These chemicals would similarly be stored in a chemical drum or a double-walled plastic tote when not in use.

The on-site solids handling processes would require a water-soluble polymer to be used as a flocculant for conditioning of the sludge stream. Polymers would be delivered in double-walled plastic totes from the manufacturer and would be stored inside a building in close proximity to the sludge thickening and dewatering equipment.

Similar to existing conditions, the proposed disinfection process would require use of sodium hypochlorite for chlorine disinfection and sodium bisulfite for de-chlorination. Sodium hypochlorite

would be stored outdoors under a shade structure in double-walled plastic tanks at the WRRF. Sodium bisulfite would be stored at the existing spray field location in a prefabricated storage shed. The existing wastewater treatment plant on site currently uses sodium hypochlorite to disinfect wastewater, and it is stored in bulk on site at the wastewater treatment plant location. The proposed project includes safety and containment improvements for the chemical storage areas at this location; however, no significant change in sodium hypochlorite storage would occur as part of the proposed project.

Risks associated with handling these chemicals would be managed by using secondary containment structures at chemical storage locations, providing adequate access and egress space for chemical delivery trucks, developing hazardous material business response plans, and installing eye-wash and shower stations at each chemical storage and feed location, as appropriate.

Biosolids Disposal

The biosolids produced from the project would be considered 40 CFR Part 503 Sub-Class B biosolids. The volume of biosolids exported from the project site would be equal or less than 20 cubic yards per week and would be transported by roll off trucks with a 20-cubic yard capacity. The biosolids would be transported to private composting facilities in Santa Barbara or Kern County for beneficial reuse or to a landfill for disposal.

1.9 Surrounding Land Uses and Setting

Surrounding land uses in the vicinity of the wastewater treatment plant location include the California Department of Forestry (CAL FIRE) San Luis Obispo County Fire Station 33 located immediately to the south along Heritage Road, office space for Heritage Village Seniors to the southeast (on same HRCSD property as the existing wastewater treatment plant), residences to the south across Heritage Road, and undeveloped land to the north, east and west.[1] The effluent pipeline alignment along Heritage Road is bounded by the HRCSD wastewater treatment plant, office space for Heritage Village Seniors, undeveloped land, and residences. The effluent pipeline alignment along Gateway Drive is surrounded by undeveloped land and residences. The spray field location is surrounded primarily by undeveloped land with an HRCSD storage pond located approximately 160 feet to the southwest.

1.10 Other Public Agencies Whose Approval is Required

HRCSD is the lead agency for this project. According to Government Code Section 53091, building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. As such, the project would not be subject to the County's building and zoning ordinances. Other public agencies whose approval may be required for the project include the following:

- County of San Luis Obispo – grading permit and updated Hazardous Materials Business Plan
- State Water Resources Control Board (SWRCB) – approval of the proposed HRCSD WRRF and associated wastewater discharge upgrades and new WDR permit, approval of the SWPPP under the statewide NPDES Construction General Permit

[1] Undeveloped land to the west of the wastewater treatment plant location has a land use designation of Single-Family Residential.

- San Luis Obispo County Air Pollution Control District (APCD) – Authority to Construct/Permit to Operate for backup generator

1.11 Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Agriculture and Forestry Resources	☐	Air Quality
■	Biological Resources	■	Cultural Resources	☐	Energy
■	Geology/Soils	☐	Greenhouse Gas Emissions	■	Hazards & Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
■	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	■	Transportation	☐	Tribal Cultural Resources
☐	Utilities/Service Systems	■	Wildfire	☐	Mandatory Findings of Significance

1.12 Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

1.12 Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

■ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Scott Duffield
Signature

11/13/2023
Date

SCOTT DUFFIELD
Printed Name

GENERAL MANAGER
Title

2 CEQA Environmental Checklist

2.1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	☐	■
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

The San Luis Obispo County General Plan (2010) defines visual resources within San Luis Obispo County as scenic areas that are important aspects of the quality of life for residents and visitors. Features such as mountain ranges and stands of oaks create natural beauty and a "sense of place" that define the county as a unique, high-quality environment. Visual resources are also defined by the view opportunities that people enjoy from a variety of locations, such as but not limited to viewpoints (parks, plazas, beaches, streets, trails, private property), vista points (specialized viewing areas near roads and highways) and scenic roads and highways (corridors that provide viewing opportunities). The Open Space and Conservation Element of the County's General Plan establishes Goal VR 4, which aims to protects visual resource within visual sensitive resource areas for scenic corridors and Goal VR 5, which states that views from scenic vistas and vista points will be protected (County of San Luis Obispo 2010).

All portions of the project site are located in areas largely occupied with existing development. Scenic vistas in the vicinity of the project site consist of views of the surrounding hills characteristic of the landscape of the area. The project would upgrade the existing HRCSD wastewater treatment plant, effluent pipeline, and spray field. The replacement effluent pipeline would be located belowground and would not be visible once construction is complete. Components of the proposed WRRF would be low profile and visually similar to the existing infrastructure, and they would be located at the same site as the existing wastewater treatment plant. Project components such as the office, power generation, and electrical buildings would be above grade. However, the buildings would be visually consistent with the existing wastewater treatment plant facilities and would not block any scenic vistas of surrounding hills as defined by San Luis Obispo County's General Plan (2010). The spray field site is not visible from any public vantage point; thus, modifications at this location would have no potential to affect a scenic vista. Therefore, the project would not have a substantial adverse effect on a scenic vista, and no impact would occur.

NO IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

State Route 1 (SR 1) is the closest officially designated state scenic highway to the project site (California Department of Transportation [Caltrans] 2018). SR 1 is located approximately 19 miles west of the project site, and the project site is not visible to motorists traveling along this highway due to distance and intervening topography. Therefore, the project would not substantially damage scenic resources within a state scenic highway, and no impact would occur.

NO IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

According to Public Resources Code Section 21071(a), Lake Nacimiento is classified as a nonurbanized area because its population is less than 100,000 persons and it is not located adjacent to one or more incorporated cities with populations that would add up to 100,000 persons or more when combined with the population of Heritage Ranch (United States Census Bureau [U.S. Census] 2020).[2] The proposed project involves construction of a WRRF to replace the existing HRCSD wastewater treatment plant at the same location and thus would result in minimal changes to the existing visual character or quality of public views of this area and its surroundings. Some project components would be new features at the wastewater treatment plant location, such as the office building, power generation, and electrical buildings. However, these project components would be visually consistent in height and architectural style with the existing HRCSD wastewater treatment facilities. In addition, the replacement effluent pipeline would be located belowground and would not be visible once construction is complete. The spray field site is not visible from public vantage points. Therefore, the proposed project would not substantially degrade the existing visual

[2] The project site is located in the Heritage Ranch development. However, population data is only available for Lake Nacimiento, which is a census-designated place that encompasses Heritage Ranch. Therefore, data for Lake Nacimiento was used for this analysis.

character or quality of public views of the site and its surroundings, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Project construction would not require nighttime work or associated lighting. During operation, exterior lighting would be utilized at the WRRF and would consist of access lighting along internal roadways as well as motion activated and manual lighting around each treatment process area, which are expected to be used once per week. All lighting on the site would consist of dark sky-rated fixtures and would not contribute to light pollution in the area. Therefore, light and glare impacts to daytime and nighttime views in the area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

The wastewater treatment plant location is primarily mapped as Urban/Built Up with the northwestern corner classified as Farmland of Local Importance (California Department of Conservation [DOC] 2016). A portion of the spray field location is also classified as Farmland of Local Importance (DOC 2016). However, these areas classified as Farmland of Local importance are developed with existing HRCSD facilities. In addition, the effluent pipeline alignment is mapped entirely as Urban/Built Up (DOC 2016). Therefore, no Farmland would be converted to non-agricultural use as a result of the proposed project, and no impact would occur.

NO IMPACT

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

The wastewater treatment plant and spray field locations have a General Plan land use designation of Public Facilities, and neither location has a zoning designation because the County does not assign zoning designations to parcels in unincorporated areas. The effluent pipeline alignment does not have a land use or zoning designation because it is within the public right-of-way. No portion of the project site is under a Williamson Act contract (DOC 2017). Therefore, the project would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

NO IMPACT

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The wastewater treatment plant and spray field locations have a General Plan land use designation of Public Facilities, and neither location has a zoning designation because the County does not assign zoning designations to parcels in unincorporated areas. The effluent pipeline alignment does not have a land use or zoning designation because it is within the public right-of-way. No portion of the project site is used for timber production, forest land, or timberland. Although some portions of the project site are adjacent to land classified as Farmland of Local Potential and Grazing Land by the DOC, the project involves the upgrade of existing wastewater treatment and conveyance facilities and would not introduce new land uses that would conflict with existing agricultural uses. Therefore, the project would not convert conflict with existing zoning for, or cause rezoning of, forest land or timberland or result in the loss of forest land or conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

NO IMPACT

2.3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	■
b. 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?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),[3] nitrogen oxides (NO_X), particulate matter with diameters of ten microns or less (PM_{10}) and 2.5 microns or less ($PM_{2.5}$), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

[3] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources that may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Quality Standards and Attainment

The project site is located is located in the South Central Coast Air Basin (SCCAB), which is under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLO County APCD). As the local air quality management agency, the SLO County APCD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the SCCAB is classified as being in "attainment" or "nonattainment." In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants, presented in Table 1, are already occurring in that area as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The San Luis Obispo County portion of the SCCAB is designated nonattainment for the one-hour and eight-hour CAAQS for ozone and the 24-hour and annual CAAQS for PM_{10}. In addition, eastern San Luis Obispo County is designated marginal nonattainment for the eight-hour ozone NAAQS. However, the project site is located in the western portion of the county that is designated attainment for this federal standard (SLO County APCD 2021).[4]

The major local sources for PM_{10} in the region are agricultural operations, vehicle dust, grading, and dust produced by high winds. Ozone is a secondary pollutant that is not produced directly by a source, but rather is formed by a reaction between NO_X and ROG in the presence of sunlight. Reductions in ozone concentrations are dependent on reducing the atmospheric quantities of these precursors. In San Luis Obispo County, the major sources of ROG are motor vehicles, organic solvents, the petroleum industry, and pesticides, and the major sources of NO_X are motor vehicles, public utility power generation, and fuel combustion by various industrial sources (SLO County APCD 2001).

4 The eastern portion of San Luis Obispo County that has been designated nonattainment for the federal 8-hour ozone standard consists of the region east of the -120.4 degree longitude line in areas of San Luis Obispo County that are south of the 35.45 degree latitude line and the region east of the -120.3 degree longitude line in areas of San Luis Obispo County that are north of the 35.45 degree latitude line.

Table 1 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).[1]

Source: United States Environmental Protection Agency 2021

Air Quality Management

The SLO County APCD, the lead air quality regulatory agency for San Luis Obispo County, maintains comprehensive air quality programs for planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of the SLO County APCD involves the preparation of plans and programs for the attainment of CAAQS and NAAQS, adoption and enforcement of rules and regulations, and issuance of permits for stationary sources. The 2001 Clean Air Plan (2001 CAP) for San Luis Obispo County, prepared by the SLO County APCD, contains a comprehensive set of control measures and a regulatory framework designed to reduce criteria air pollutants and precursors from both stationary and mobile sources. The SLO County APCD also inspects stationary sources to ensure they abide by permit requirements, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements other programs and regulations required by the federal and state Clean Air Acts (SLO County APCD 2001).

Air Pollutant Emission Thresholds

The SLO County APCD has developed specific daily and quarterly numeric thresholds that apply to project construction activities within the portion of the SCCAB under its jurisdiction, which are summarized in Table 2.

Table 2 SLO County APCD Construction Emissions Significance Thresholds

Pollutant	Daily Threshold (lbs/day)	Quarterly Threshold (tons/year) Tier 1	Quarterly Threshold (tons/year) Tier 2
ROG + NO_X (combined)	137[1]	2.5[2]	6.3[3]
DPM	7[1,4]	0.13[2]	0.32[3]
Fugitive Particulate Matter (PM_{10}), Dust	n/a	2.5[5]	n/a

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; PM_{10} = particulate matter measuring 10 microns in diameter or less; n/a = not applicable
[1] Exceedance requires implementation of Standard Mitigation Measures.
[2] Exceedance requires implementation of Standard Mitigation Measures and Best Available Control Technology for construction equipment. Off-site mitigation for ROG and NO_X may be required if feasible mitigation measures cannot be implemented or if no mitigation measures are feasible.
[3] Exceedance requires implementation of Standard Mitigation Measures, Best Available Control Technology, a Construction Activity Management Plan, and off-site mitigation.
[4] Only for construction projects expected to be completed in less than one quarter.
[5] Exceedance requires implementation of Standard Fugitive PM_{10} Mitigation Measures and may require implementation of a Construction Activity Management Plan. The SLO County APCD states that any project with a grading area greater than 4.0 acres of disturbed area has the potential to exceed this threshold.
Source: SLO County APCD 2023

Operational Emissions

The SLO County APCD's long-term operational emission thresholds are summarized in Table 3.

Table 3 SLO County APCD Operational Emissions Significance Thresholds

Pollutant	Daily Thresholds[1] (lbs/day)	Annual Thresholds[1] (tons/year)
ROG + NO_X (combined)[2]	25	25
DPM[2]	1.25	n/a
Fugitive Particulate Matter (PM_{10}), Dust	25	25
Carbon Monoxide	550	n/a

lbs = pounds; ROG = reactive organic gases; NO_X = nitrogen oxides; DPM = diesel particulate matter; PM_{10} = particulate matter measuring 10 microns in diameter or less; CO = carbon monoxide; n/a = not applicable
[1] The SLO County APCD specifies that daily and annual emission thresholds are based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 and the CARB Carl Moyer Guidelines for DPM.
[2] The SLO County APCD specifies that CalEEMod winter emission outputs should be compared to operational thresholds for these pollutants.
Source: SLO County APCD 2023

Methodology

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.19. CalEEMod uses project-specific information, including the project's land uses, square footages for different uses (e.g., general office building, non-asphalt surface), and location, to model a project's construction and operational emissions. The analysis reflects the construction and operation of the project as described under *Description of Project*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker and vendor trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the construction schedule and construction equipment list provided by Water Systems

Consulting. Construction would occur over approximately 38 months beginning in June 2024. Approximately 140 cubic yards of soil export and approximately 140 cubic yards of fill material import would be required. It is assumed all construction equipment used would be diesel-powered. Approximately 930 square feet of existing structures, including storage sheds and the existing effluent pump station, would be demolished. This analysis assumes the project would comply with all applicable regulatory standards. In particular, the project would comply with SLO County APCD Rules 401 (Visible Emissions), 403 (Particulate Matter Emission Standards), and Rule 417 (Control of Fugitive Emissions of VOCs).

Operational emissions modeled include mobile source emissions (i.e., vehicle emissions), area source, and stationary source emissions. Mobile source emissions are generated by vehicle trips to and from the project site. Operation of the project would include daily maintenance visits, periodic deliveries four to five times a month, and two weekly biosolids disposal trips, which would be an increase as compared to current visitation to the site. There would be no on-site energy emissions because the project would not include natural gas connections.[5] Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings. Stationary source emissions would be generated by an approximately 350-kW (470-horsepower) emergency diesel backup generator. The backup generator would operate once each month for approximately four hours (48 hours per year) for maintenance and testing.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The proposed project would be consistent with the 2001 CAP, which is the most recent air quality plan adopted for the County, if it would result in an increase in population that is equal to or less than the population estimates used in the *2050 Regional Growth Forecast for San Luis Obispo County* and if it is consistent with the transportation and land use strategies outlined in the CAP (SLO County APCD 2001).

The project would bring the existing HRCSD wastewater treatment system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed project would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity). In addition, growth in the Heritage Ranch community is constrained by the limitations in San Luis Obispo County Code Section 22.104.030(A)(2), which restricts the total number of residential units (including existing recreational vehicle sites) in the Heritage Ranch community to 2,900 units. In addition, the project does not include construction of housing. Therefore, the proposed project would not alter current population trends for the region. The transportation control measures included in the 2001 CAP are designed for implementation at the County and State levels and are not intended for implementation at the project level. State programs identified in the 2001 CAP include the Carl Moyer Memorial Air Quality Standards Attainment Program which provides grant funding for low emission engines and equipment to reduce NO_x and PM_{10} from heavy duty engines. County programs include the SLO County APCD's Motor Vehicle Emissions Reduction (MOVER) program

[5] Operation of the proposed project would require a net increase of approximately 253 megawatt-hours of electricity per year; however, CalEEMod only calculates direct emissions of criteria pollutants from energy sources that combust on site, such as natural gas used in a building. The project does not include natural gas connections. CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the United States Environmental Protection Agency, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

which provides funding for transportation related projects, Regional Ridesharing Program, Public Transit Systems, Transportation Management Associations (a public/private partnership to implement transportation demand management strategies to reduce traffic congestion), System Improvements (improvements that reduce air impacts through synchronization of signals, intersection channelization, design of one-way streets and turn lanes, etc.). Therefore, while the proposed project would result in a small increase in daily operational and maintenance trips, the project would not impede the transportation control measures and strategies as outlined in the CAP.

As such, the proposed project would be consistent with the land use and transportation control measures and strategies outlined in the 2001 CAP. Therefore, the proposed project would be consistent with the 2001 CAP, and no impact would occur.

NO IMPACT

b. Would the project 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?

The San Luis Obispo County portion of the SCCAB is designated nonattainment for the one-hour and eight-hour CAAQS for ozone and the 24-hour and annual CAAQS for PM_{10}. In addition, eastern San Luis Obispo County is designated marginal nonattainment for the eight-hour ozone NAAQS. However, the project site is located in the western portion of the county that is designated attainment for this federal standard (SLO County APCD 2021).[6] The following subsections discuss emissions associated with construction and operation of the proposed project.

Construction Emissions

Project construction would generate temporary air pollutant emissions associated with fugitive dust (PM_{10} and $PM_{2.5}$) and exhaust emissions from heavy construction equipment and construction vehicles in addition to ROG emissions that would be released during the drying phase of architectural coating. Table 4 summarizes the estimated maximum daily emissions of air pollutants during project construction, and Table 5 summarizes the estimated quarterly emissions of pollutants during project construction. As shown therein, construction-related emissions would not exceed SLO County APCD daily or quarterly thresholds. Therefore, project construction would not 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. Impacts would be less than significant.

[6] The eastern portion of San Luis Obispo County designated nonattainment for the federal 8-hour ozone standard consists of the region east of the -120.4 degree longitude line in areas of San Luis Obispo County that are south of the 35.45 degree latitude line and the region east of the -120.3 degree longitude line in areas of San Luis Obispo County that are north of the 35.45 degree latitude line.

Table 4 Estimated Maximum Daily Construction Emissions (lbs/day)

Construction Year	ROG + NO_x	DPM[1]
2024	91	3
2025	49	2
2026	45	1
2027	48	1
Maximum Emissions	**91**	**3**
SLO County APCD Thresholds	137	7
Threshold Exceeded?	**No**	**No**

ROG = reactive organic gases; DPM = diesel particulate matter

[1] DPM estimates were derived from the "$PM_{10}E$" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2021).

Notes: All emissions modeling was completed using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding.

Table 5 Estimated Maximum Quarterly Construction Emissions (tons/quarter)[1]

Construction Year	ROG + NO_X	DPM[2]	Fugitive Particulate Matter (PM_{10}), Dust[3]
2024	0.9	0.04	0.3
2025	1.4	0.04	<0.1
2026	1.5	0.04	<0.1
2027	1.0	0.03	<0.1
Maximum Quarterly Emissions	**1.5**	**0.04**	**0.3**
SLO County APCD Tier 1 Thresholds	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLO County APCD Tier 2 Thresholds	6.3	0.32	n/a
Threshold Exceeded?	**No**	**No**	**No**

ROG = reactive organic gases; DPM = diesel particulate matter

[1] Annual construction emissions were divided by four to estimate quarterly emissions.

[2] DPM estimates were derived from the "$PM_{10}E$" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2021).

[3] Dust is equal to "$PM_{10}D$" reported by CalEEMod.

Notes: All emissions modeling was completed using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding.

Operational Emissions

Operation of the project would generate criteria air pollutant emissions associated with area sources (e.g., architectural coatings, consumer products, and landscaping equipment), mobile sources (i.e., vehicle trips to and from the project site), and stationary sources (i.e., emergency backup generator). Table 6 summarizes the project's maximum daily operational emissions by emission source, and Table 7 summarizes the project's annual operational emissions by emission source. As shown therein, operational emissions would not exceed SLO County APCD daily or annual thresholds for criteria pollutants. Therefore, project operation would not result in a cumulatively

considerable net increase of any criteria pollutant for which the project region is in non-attainment, and impacts would be less than significant.

Table 6 Estimated Maximum Daily Operational Emissions (lbs/day)

Emissions Source	ROG + NO_X	DPM[1]	Dust[2]	Carbon Monoxide
Area	< 1	< 0.01	< 1	< 1
Mobile	<1	<0.01	< 1	< 1
Stationary	1	0.20	< 1	11
Total	**1**	**0.20**	**< 1**	**12**
SLO County APCD Daily Thresholds	25	1.25	25	550
Threshold Exceeded?	**No**	**No**	**No**	**No**

ROG = reactive organic gases; NO_X =nitrogen oxides; DPM = diesel particulate matter

[1] DPM estimates were derived from the "$PM_{10}E$" output from CalEEMod, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2021).

[2] Dust is equal to "$PM_{10}D$" reported by CalEEMod.

Notes: All emissions modeling was completed using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding.

Table 7 Estimated Annual Operational Emissions (tons/year)

Emissions Source	ROG + NO_X	Dust[1]
Area	< 1	< 1
Energy	< 1	< 1
Mobile	< 1	< 1
Stationary	< 1	< 1
Total	**< 1**	**< 1**
SLO County APCD Annual Thresholds	25	25
Threshold Exceeded?	**No**	**No**

ROG = reactive organic gases; NO_X =nitrogen oxides

[1] Dust is equal to "$PM_{10}D$" reported by CalEEMod.

Notes: All emissions modeling was completed using CalEEMod. See Appendix A for modeling results. Some numbers may not add up due to rounding.

LESS THAN SIGNIFICANT IMPACT

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Certain population groups, such as children, the elderly, and people with health problems, are particularly sensitive to air pollution. Therefore, the majority of sensitive receptor locations are schools, hospitals, and residences. Sensitive receptors in the project site vicinity include single-family residences located approximately 180 feet southwest of the project site across Heritage Road. The nearest sensitive receptors to the replacement effluent pipeline alignment are single-family homes located in neighborhoods off Heritage Road and Gateway Drive, the closest of which is approximately 50 feet from the proposed alignment. The nearest sensitive receptors to the spray field location are single-family homes approximately 0.9 mile to the southwest. Localized air quality

impacts to sensitive receptors typically result from carbon monoxide hotspots and toxic air contaminants (TACs), which are discussed in the following subsections.

Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 parts per million or the federal and state eight-hour standard of 9.0 parts per million (CARB 2021)

The project would not result in a substantial increase in operation and maintenance trips needed for the WRRF. In addition, due to the non-urbanized nature of the project site vicinity, existing traffic volumes are low. Therefore, the project would not result in volumes of traffic that would create, or substantially contribute to, the exceedance of state and federal ambient air quality standards for carbon monoxide. The project would not expose sensitive receptors to substantial pollutant concentrations related to carbon monoxide hotspots, and impacts would be less than significant.

Toxic Air Contaminants

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2021) and is therefore the focus of this analysis.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 38 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (BAAQMD 2017). Of these, the 30-year exposure period is most commonly used. Thus,

the duration of proposed construction activities (i.e., 38 months) is approximately eleven percent of the total exposure period used for 30-year health risk calculations.

For the purposes of this analysis, DPM is assumed to be equivalent to PM_{10} emissions, which is a conservative assumption given that PM_{10} includes both equipment exhaust and fugitive dust emissions and that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2021). Maximum PM_{10} emissions would occur during site preparation and grading activities at the wastewater treatment plant and spray field locations. These activities would last for approximately 153 days. Particulate matter emissions would decrease for the remaining construction period because construction activities such as trenching, building construction, infrastructure installation, paving/site restoration, and architectural coating would require less intensive construction equipment. While the maximum DPM emissions associated with site preparation and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent approximately one percent of the total 30-year exposure period for health risk calculation. Given the aforementioned discussion, DPM generated by project construction would not create conditions where the probability is greater than one in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a Hazard Index greater than one for the Maximally Exposed Individual. Therefore, project construction would not expose sensitive receptors to substantial TAC concentrations, and impacts would be less than significant.

Operation

The proposed backup generator would be a stationary source of TAC emissions during operation. The generator would typically operate for four hours per month for routine testing and maintenance and would not exceed the operational DPM thresholds set forth by SLO County APCD as shown in Table 6 and Table 7. In addition, operational DPM emissions would not exceed 1.25 pounds per day, which is the level at which SLO County APCD recommends implementation of on-site Best Available Control technology measures and preparation of a Health Risk Assessment if sensitive receptors are within 1,000 feet (SLO County APCD 2023). Therefore, given the limited operations of the proposed backup generator and low levels of operational emissions, impacts related to TAC emissions from stationary sources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Naturally-Occurring Asbestos

Naturally-occurring asbestos has been identified by the CARB as a TAC. Serpentine and ultramafic rocks are common in San Luis Obispo County and may contain naturally occurring asbestos. According to the SLO County APCD Naturally-Occurring Asbestos Map for San Luis Obispo County, the project area is not located in an area that is known to contain naturally-occurring asbestos (SLO County APCD 2019). Therefore, project construction activities, including grading, would not result in other emissions, such as asbestos, adversely affecting a substantial number of people, and impacts would be less than significant.

Odors

During construction activities, heavy equipment and vehicles would emit odors associated with vehicle and engine exhaust and during idling. However, these odors would be intermittent and temporary and would cease upon completion, and odors disperse with distance. Overall, project construction would not generate other emissions, such as those leading to odors, affecting a substantial number of people. Construction-related impacts would be less than significant.

Table 3-3 in the SLO County APCD 2023 *CEQA Air Quality Handbook* provides screening distances for land uses that have the potential to generate substantial odor complaints. The uses in the table include wastewater treatment plants, sanitary landfills, transfer stations, refineries, coffee roasters, food processing facilities, composting facilities, asphalt batch plants, oil fields, fiberglass manufacturing, and chemical manufacturing (SLO County APCD 2023). The project involves upgrades to existing wastewater treatment and conveyance facilities and would not result in a net increase in the potential for odorous emissions as compared to existing conditions. Therefore, no operational impacts would occur.

LESS THAN SIGNIFICANT IMPACT

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2.4 Biological Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	■	☐	☐
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	■
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	■

Regulated or sensitive resources studied and analyzed herein include special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, regionally protected resources (e.g., from Habitat Conservation Plans and Natural Community Conservation Plans), and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the County of San Luis Obispo).

The following analysis is based primarily on the Biological Resources Assessment prepared for the project by Rincon Consultants, Inc. (Rincon), which is included as Appendix B. As part of the assessment, Rincon conducted field reconnaissance surveys of the project site in October 2022 and September 2023.

a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by United States Fish and Wildlife Service (USFWS) or National Marine Fisheries Service under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act; and animals designated as "Species of Special Concern" by CDFW or "Fully Protected" under the California Fish and Game Code. Rookery sites for species that nest colonially, such as bat maternity roosts, are also treated as special status. In addition, species designated as locally important by a local agency and/or otherwise protected through ordinance or local policy are considered special status species. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and are considered as such in this document (Appendix B).

Special-status Plant Species

Based on the database and literature review, nine special status plant species are known to or have the potential to occur within the regional vicinity of the project site (Appendix B). Of these, three special status plant species may occur within the project site based on the presence of suitable habitat. These species include:

- Santa Lucia dwarf rush (*Juncus luciensis*) – CRPR List 1B.2
- Abbott's bush-mallow (*Malacothamnus abbottii*) – CRPR List 1B.1
- Davidson's bush-mallow (*Malacothamnus davidsonii*) – CRPR List 1B.2

These special status plant species have potential to occur within the spray field portion of the project site, specifically within the riparian community in the northwest corner. However, project impacts would occur outside of this riparian community and would avoid suitable habitat for these special status plant species. Therefore, the project would not have a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. No impact would occur.

Special-status Wildlife Species

The following nine special status wildlife species have moderate or high potential to occur within the spray field portion of the project site due to the proximity of riparian vegetation communities and the off-site storage pond to the southwest (Appendix B):

- California red-legged frog (*Rana draytonii*)
- Coast Range newt (*Taricha torosa*)
- Southwestern pond turtle (*Actinemys pallida*)
- Two-striped gartersnake (*Thamnophis hammondii*)
- Yellow-billed cuckoo (*Coccyzus americanus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Yellow warbler (*Setophaga petechia*)
- Monterey big-eared (dusky-footed) woodrat (*Neotoma macrotis luciana*)
- American badger (*Taxidea taxus*)

No direct impacts to suitable habitat for special status wildlife would occur from implementation of the project because all impacts would occur within developed or ruderal areas. The following sections discuss the potential for the project to result in other direct or indirect impacts to these species.

California Red-legged Frog, Coast Range Newt, Southwestern Pond Turtle, and Two-Striped Gartersnake

California red-legged frog is listed as federally Threatened and as a state Species of Special Concern, and Coast Range newt, southwestern pond turtle, and two-striped gartersnake are state Species of Special Concern. No suitable habitat for these species occurs within the wastewater treatment plant portion of the project site. In addition, no suitable breeding habitat for any of these species occurs within the spray field portion of the project site. However, the riparian area mapped in the northwest corner of the spray field has the potential to serve as upland habitat for these species if they are present within the unnamed drainage adjacent to the spray field location. The existing storage pond southwest of the spray field may also provide suitable habitat for these species, and southwestern pond turtle is known to occur within the existing storage pond. If present within these aquatic features, these semi-aquatic species may be encountered incidentally within the spray field portion of the project site during conditions conducive to upland movement such as during rain, fog, or at night due to the proximity of the riparian area.

Although outside the project site, the unnamed drainage adjacent to and just west of the intersection of Gateway Drive and Pintail Avenue (near the replacement effluent pipeline alignment) also contains low habitat suitability for these species. These semi-aquatic species may be encountered incidentally during conditions conducive to upland movement (e.g., movement along the road) such as during rain, fog, or at night due to the proximity of the unnamed drainage.

No impacts to suitable habitat for California red-legged frog, Coast Range newt, southwestern pond turtle, and two-striped gartersnake habitat would occur during implementation of the proposed project because impacts at the spray field location and along the effluent pipeline alignment would be limited to existing developed areas and these species do not have potential to occur at the wastewater treatment plant portion of the project site. However, because these species can be mobile and the proposed impact areas at the spray field location and effluent pipeline alignment are

in close proximity to potentially suitable habitat, these species may be incidentally encountered during construction activities. Potential impacts to these species would be limited to potential collisions with equipment during construction activities at the spray field and replacement effluent pipeline portions of the project site (Appendix B). Therefore, impacts to California red-legged frog, southwestern pond turtle, and Coast Range newt would be potentially significant, and implementation of the Mitigation Measures BIO-1 through BIO-3 would be required to reduce impacts to a less-than-significant level.

The purpose of the project is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to these special status species associated with this riparian habitat (Appendix B).

American Badger

American badger is a state Species of Special Concern. No American badgers or their sign were detected within the project site during the reconnaissance-level survey. This species utilizes a wide variety of scrub, forest and grassland habitats with friable soils. The upland areas within all of the project site provide potentially suitable habitat for this species. Sign of a suitable prey base for American badger in the form of California ground squirrels and other burrowing small mammals was observed during the reconnaissance-level survey. Areas suitable for den construction could include undeveloped portions of the project site, and the species could traverse developed portions of the project site. Impacts to American badger are unlikely to occur because the majority of the project site is comprised of developed areas and has low habitat suitability. Areas suitable for den construction could include undeveloped portions of the project site, specifically the ruderal habitat within the spray field portion of the project site. Additionally, the species could traverse developed portions of the project site (Appendix B). Considering lack of American badger sign and the small size of existing facilities and the small number of individuals that could occupy ruderal areas of the site as compared to the larger regional population, impacts to American badger would be less than significant.

Monterey Big-eared Woodrat

Monterey big-eared woodrat (previously known as Monterey dusky-footed woodrat) is a state Species of Special Concern. No suitable habitat for this species occurs within the wastewater treatment plant portion of the project site. No woodrat houses or sign were observed within the project site during the reconnaissance-level survey. The riparian community mapped in the northwest corner of the spray field portion of the project site is potentially suitable habitat for the species but would not be impacted by the proposed project. The Monterey big-eared woodrat prefers cover and is not expected to occur outside of this riparian community. Therefore, no direct impacts to Monterey big-eared woodrat would occur. The purpose of the project is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to the riparian habitat and thus would not indirectly impact Monterey big-eared woodrat (Appendix B).

Special Status and Nesting Birds

Special status birds with the potential to occur within the project site include yellow-billed cuckoo (federally Threatened and state Endangered), southwestern willow flycatcher (federally Threatened and state Endangered), and yellow warbler (state Species of Concern). Native vegetation, namely the various trees within and adjacent to the wastewater treatment plant location and the riparian communities within the spray field location and adjacent to the replacement effluent pipeline alignment provide suitable nesting habitat for common bird species, which are protected by the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. In addition to providing suitable nesting habitat for common bird species, the riparian communities within the spray field portion of the project site and adjacent to the replacement effluent pipeline alignment also provide suitable nesting habitat for three special status bird species: yellow-billed cuckoo, southwestern willow flycatcher, and yellow warbler (Appendix B). While sparse and disturbed, riparian vegetation adjacent to the replacement effluent pipeline alignment may provide low quality habitat to these special status bird species.

Indirect impacts to common bird species as well as the special-status yellow-billed cuckoo, southwestern willow flycatcher, and yellow warbler could occur if these species are nesting within the riparian community within and adjacent to the spray field location as a result of construction noise that may cause behavioral changes that can result in failure of an established nest. Impacts to common bird species may also occur if active nests are present in the existing oak trees within the wastewater treatment plant location, which are proposed to be removed, as well as trees adjacent to this area during construction activities (Appendix B). Therefore, impacts to special-status bird species and nesting birds would be potentially significant, and implementation of Mitigation Measure BIO-4 would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-1 Worker Environmental Awareness Program Training

Prior to commencement of project activities at the spray field portion of the project site, a qualified biologist (i.e., approved by the USFWS) shall conduct a Worker Environmental Awareness Program training for all construction personnel. At a minimum, the training shall include a description of the biology of the California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake and their habitats; the specific measures that are being implemented to avoid these species; the guidelines that must be followed by all construction personnel to avoid take of these species; and the boundaries within which the proposed project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. The qualified biologist shall appoint a designated person (e.g., the crew foreman) who will be responsible for ensuring all crewmembers comply with the guidelines. The training shall be conducted for all new personnel before they can participate in construction activities.

BIO-2 Pre-construction Surveys and Biological Monitoring

A qualified biologist familiar with California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake shall conduct a pre-construction survey of the spray field and replacement effluent pipeline portions of the ~~Action Area~~ project site within 24 hours prior to the start of construction. Surveys must be conducted immediately prior to ground-disturbing activities to lower the probability of one or more adult or sub-adult frogs moving into or laying eggs within

the ~~Action Area~~ project site after a survey has already been conducted. In addition, a qualified biologist shall be present during initial ground disturbance of the spray field and replacement effluent pipeline portions of the ~~Action Area~~ project site. If California red-legged frogs (including eggs and tadpoles) are encountered at any time during project activities at the spray field or replacement effluent pipeline locations, construction activities shall cease in the area and the USFWS shall be notified to determine how to proceed. No work may continue at the spray field or replacement effluent pipeline locations until authorized by the USFWS. If individuals of southwestern pond turtle, Coast Range newt, or two-striped gartersnake are discovered during the pre-construction survey or monitoring, these individuals shall be immediately relocated the shortest distance practicable to a location that contains suitable habitat that is not likely to be affected by activities associated with the proposed ~~action~~ project.

BIO-3 Construction Site Best Management Practices

The following avoidance and minimization measures shall be implemented during construction activities at the spray field location of the project site:

- All vehicles and equipment shall be in good working condition and free of leaks. A spill prevention plan shall be established in the event of a leak or spill.
- The number of access routes, numbers and sizes of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the project goal. Routes and boundaries shall be clearly demarcated.
- All areas outside of the project perimeter fence shall be designated as Environmentally Sensitive Areas where no construction activities shall occur.
- Work shall be restricted to daylight hours.
- Water shall not be impounded in a manner that may attract California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake.
- Work shall be conducted during dry weather conditions (i.e., days with less than 0.1 inch of predicted rainfall), outside of the wet season (October 15 through April 30).
- Herbicides shall not be used on-site during construction.
- No pets or firearms shall be permitted on-site.
- All food-related trash shall be disposed of in closed containers and removed from the project area at least twice per week during the construction period to avoid attracting predators.

BIO-4 Avoidance and Minimization Measures for Nesting Birds

Initial site disturbance in the project site shall occur outside the general avian nesting season (February 1 through August 31), if feasible. If avoidance of the nesting season for initial disturbance is not feasible, a qualified biologist shall conduct a preconstruction nesting bird survey to determine the presence/absence, location, and status of any active nests on or adjacent to the project site. The extent of the survey buffer area surrounding the project site shall be established by the qualified biologist to ensure direct and indirect effects to nesting birds are avoided. Buffer size shall consider the species involved and relevant level of tolerance to adjacent activity, the location of the nest relative to proposed activities, and site conditions that naturally buffer the location, such as vegetation screening and topography. Nesting bird surveys shall be performed no more than 14 days prior to initial site disturbance. In the event active nests are discovered, a suitable buffer shall be established around such active nests and no construction within the buffer shall be allowed until a qualified biologist has determined the nest is no longer active (e.g., the nestlings have fledged and

are no longer reliant on the nest). No project activities shall occur within this buffer until the qualified biologist has confirmed breeding/nesting is completed and the young have fledged the nest. Nesting bird surveys are not required for initial site disturbance occurring between September 1 and January 31.

Significance after Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-3 would minimize potential impacts to California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake through implementation of surveys and training sessions for all construction personnel, preconstruction surveys and biological monitoring, and construction best management practices. In addition, implementation of Mitigation Measure BIO-4 would reduce the potential for project construction activities to result in the loss of active bird nests through a pre-construction nesting bird survey and establishment of avoidance buffers around active nests, if present. Overall, implementation of these measures would reduce project impacts to special-status wildlife species to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project site does not contain sensitive natural communities or critical habitat. Riparian vegetation occurs in the northwest corner of the spray field portion of the project site and is associated with the unnamed drainage adjacent to this area. However, impacts from implementation of the project would occur outside of the riparian community and would therefore avoid direct impacts. In addition, the purpose of the project is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to riparian habitat (Appendix B). Therefore, the project would not have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS, and no impact would occur.

NO IMPACT

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

One potential jurisdictional feature occurs in the northwest corner of the spray field location. This unnamed drainage is not located within the project site; however, the associated riparian vegetation would likely be under the jurisdiction of CDFW and the Central Coast Regional Water Quality Control Board. In addition, three potentially jurisdictional features occur adjacent to the replacement effluent pipeline alignment. These unnamed drainages and their associated riparian vegetation are not located within the project site (Appendix B). All activities associated with the proposed project would occur outside of the riparian habitat within the spray field portion of the project site. No potentially jurisdictional waters or wetlands are located within the wastewater treatment plant or replacement effluent pipeline portions of the project site. Furthermore, the purpose of project is to upgrade HRCSD's existing wastewater treatment process and improve the

water quality of wastewater discharge at the existing HRCSD outfall to comply with Waste Discharge Order No. R3-2017-0026 such that no adverse impacts to water quality would occur (Appendix B). Therefore, no impacts to potentially jurisdictional waters and wetlands would occur.

NO IMPACT

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, though dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending upon the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

The project site is not located within an Essential Connectivity Area (i.e., a mapped wildlife corridor), and no wildlife nursery sites are located within the project site. Implementation of the project would occur within the existing HRCSD wastewater treatment plant and spray field locations and would not disturb or remove native vegetation communities. In addition, no project components would create new barriers to movement. Therefore, the project would not interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites, and no impacts to wildlife movement or nursery sites as compared to existing conditions.

NO IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project would not conflict with local policies or ordinances protecting biological resources because the project site is not subject to any such local policies or ordinances. No impact would occur.

NO IMPACT

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because the project site is not subject to any such plans. Therefore, no impact would occur.

NO IMPACT

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2.5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☐	■
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	■	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	■	☐

Rincon prepared a Historic Properties Inventory Report (i.e., a Phase 1 Cultural Resources Assessment Report) to evaluate potential project impacts to historical and archaeological resources. The report included the results of a California Historical Resources Information System (CHRIS) records search, archival research, a Sacred Lands File (SLF) search conducted by the Native American Heritage Commission (NAHC), and a pedestrian field survey. The following analysis is based on the Historic Properties Inventory Report, which is provided as a redacted version in Appendix C.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Public Resources Code (PRC) Section 21084.1 requires a lead agency determine whether a project could have a significant effect on historical resources. A historical resource is a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (PRC Section 21084.1), a resource included in a local register of historical resources (PRC Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (PRC Section 15064.5[a][3]).

A resource shall be considered historically significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Searches of the CHRIS at the Central Coast Information Center located at the Santa Barbara Museum of Natural History were completed on June 9, 2022 and October 4, 2023. The searches were performed to identify previously recorded cultural resources as well as previously conducted

cultural resources studies within the project site and a 0.5-mile radius surrounding it. Rincon also reviewed the National Register of Historic Places (NRHP), the CRHR, the California Historical Landmarks list, and the Built Environment Resources Directory, as well as its predecessor the California State Historic Property Data File. Results of these searches indicated no known historical resources are located within or near the project site. On September 13, 2022 and October 16, 2023, Rincon conducted pedestrian field surveys and identified one historic-aged built environment property, the HRCSD spray field, which dates to circa 1972 and consists of three sand filters, a de-chlorination facility, and an outfall. However, the HRCSD spray field was recommended ineligible for listing in the NRHP (Appendix C). Because no historical resources exist on the project site, the project would not result in a substantial adverse change to the significance of a historical resource, and no impact would occur.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

CEQA Guidelines Section 15064.5 defines significant archaeological resources as resources that meet the criteria for historical resources or resources that constitute unique archaeological resources. A significant impact could occur if the proposed project would significantly affect archaeological resources that fall under either of these categories. If it can be demonstrated a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]).

PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The records search conducted did not identify any known archaeological resources within the project site. The CHRIS search and background research conducted for this assessment identified three prehistoric sites that have been previously recorded within 0.5 mile of the project site. The two prehistoric sites consisted of bedrock outcrops containing mortars, a type of resource not likely to be found within the project site due to its previously graded and developed nature. The results of the SLF search did not indicate any known Native American resources near the project site. The archaeological survey also did not identify cultural materials within the project site. Additionally, the survey confirmed the project site is highly disturbed due to past construction, maintenance, and operational activities of HRCSD such that the likelihood of encountering intact, potentially significant cultural deposits in the project site is low (Appendix C). However, there is still the possibility for unanticipated discoveries during construction. As a result, in the event of an unanticipated discovery, project impacts to archaeological resources would be potentially significant, and

implementation of Mitigation Measure CR-1 would be required to reduce impacts to a less-than-significant level.

Mitigation Measure

CR-1 Unanticipated Discovery of Cultural Resources

If archaeological resources are unexpectedly encountered during project-related ground-disturbing activities, work in the immediate area shall be halted and a qualified archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the find is prehistoric, then a Native American representative shall also be contacted to participate in the evaluation of the find. If necessary, the evaluation may require preparation of a treatment plan and archaeological testing for CRHR eligibility. If the discovery proves to be eligible for the CRHR and cannot be avoided by the proposed project, additional work, such as data recovery excavation, may be warranted to mitigate any significant impacts to historical resources.

Significance after Mitigation

Mitigation Measure CR-1 would minimize the potential for impacts to archaeological resources resulting from unexpected discoveries through implementation of appropriate procedures for evaluation and treatment should any discoveries be made during construction. Therefore, implementation of Mitigation Measure CR-1 would reduce impacts to archaeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No human remains are known to be present within the project site (Appendix C). However, the discovery of human remains is always a possibility during ground disturbing activities. If human remains are unexpectedly found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. In the event of an unanticipated discovery of human remains, the County Coroner must be notified immediately. If the human remains are determined to be of Native American origin, the coroner will notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant. The Most Likely Descendant has 48 hours from being granted site access to make recommendations for the disposition of the remains. If the Most Likely Descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from subsequent disturbance. Due to required compliance with PRC Section 5097.98 and California Health and Safety Code Section 7050.5, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	■
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

As a state, California is one of the lowest per capita energy users in the United States, ranked 47th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2023). The project would not include natural gas connections; therefore, this analysis focuses on electricity and fuel consumption. Electricity is primarily consumed by the built environment for lighting, appliances, heating and cooling systems, fireplaces, and other uses such as industrial processes in addition to being consumed by alternative fuel vehicles. Most of California's electricity is generated in state with approximately 30 percent imported from the Northwest and Southwest in 2020 (California Energy Commission [CEC] 2021). In addition, approximately 34 percent of California's electricity supply in 2021 came from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2022). In 2018, Senate Bill (SB) 100 accelerated the state's Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy and zero-carbon resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Electricity would be provided to the project by Pacific Gas & Electric (PG&E). Table 8 summarizes the electricity consumption for San Luis Obispo County, in which the project site would be located, and for PG&E, as compared to statewide consumption.

Table 8 2021 Electricity Consumption

Energy Type	San Luis Obispo County	Pacific Gas & Electric	California	Proportion of Provider Consumption	Proportion of Statewide Consumption[1]
Electricity (GWh)	1,719	78,437	280,738	2.2%	0.6%

GWh = gigawatt-hours

[1] For reference, the population of the entire San Luis Obispo County (282,013 persons) is approximately 0.7 percent of the population of California (39,029,342 persons) (United States Census Bureau 2022).

Source: CEC 2021; CEC 2023a

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (U.S. Energy Information Administration 2021). Gasoline, which is used by light-duty cars, pickup

trucks, and sport utility vehicles, is the most used transportation fuel in California with 13.6 billion gallons sold in 2022 (CEC 2023b). Diesel, which is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2.3 billion gallons sold in 2021 (CEC 2023b). Table 9 summarizes the petroleum fuel consumption for San Luis Obispo County, in which the project site would be located, as compared to statewide consumption.

Table 9 2021 Annual Gasoline and Diesel Consumption

Fuel Type	San Luis Obispo County (gallons)	California (gallons)	Proportion of Statewide Consumption[1]
Gasoline	123,000,000	13,640,000,000	0.9%
Diesel	24,000,000	2,290,000,000	1.0 %

[1] For reference, the population of the entire San Luis Obispo County (282,013 persons) is approximately 0.7 percent of the population of California (39,029,342 persons) (United States Census Bureau 2022).

Source: CEC 2023b

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project's energy consumption are discussed in detail in Section 2.3, *Air Quality*, and Section 2.8, *Greenhouse Gas Emissions*, respectively.

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

The proposed project would use nonrenewable and renewable resources for construction and operation of the project. The anticipated use of these resources is detailed in the following subsections. Information provided by Water Systems Consulting and the CalEEMod outputs for the air pollutant and GHG emissions modeling (Appendix A) were used to estimate energy consumption associated with the proposed project.

Construction Energy Demand

The project would require demolition, site preparation, grading, trenching, building construction, infrastructure installation, architectural coating, landscaping, and paving. During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to deliver materials to the site. As shown in Table 10, project construction would require approximately 25,182 gallons of gasoline and approximately 450,925 gallons of diesel fuel. These construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating every day of construction.

Table 10 Estimated Fuel Consumption during Construction

Source	Fuel Consumption (gallons)	
	Gasoline	Diesel
Construction Equipment, Vendor & Hauling Trips – WRRF and Spray Field	–	445,607
Construction Equipment, Vendor & Hauling Trips – Effluent Pipeline	--	5,318
Construction Worker Vehicle Trips – WRRF and Spray Field	24,139	–
Construction Worker Vehicle Trips – Effluent Pipeline	1,043	--
Total	**25,182**	**450,925**

See Appendix B for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the United States Environmental Protection Agency (USEPA) Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. Furthermore, per applicable regulatory requirements, such as 2022 CALGreen, the project would comply with construction waste management practices to divert a minimum of 65 percent of construction debris. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, project construction would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and no impacts would occur.

Operational Energy Demand

Operation of the project would contribute to regional energy demand by consuming electricity, gasoline and diesel fuels. Natural gas would not be consumed at the project site. Electricity would be used for heating and cooling systems, lighting, appliances, and water and wastewater conveyance, among other purposes. Gasoline and diesel consumption would be associated with operations and maintenance trips as well as maintenance and testing of the emergency back-up generator. Table 11 summarizes estimated operational energy consumption for the proposed project. As shown therein, project operation would require approximately 781 gallons of gasoline for transportation fuels, 872 gallons of diesel for emergency back-up generator testing and maintenance, and 253 megawatt-hours (MWh) of electricity annually. Electricity consumption associated with operation of the WRRF represents the greatest operational use of energy associated with the proposed project.

Table 11 Estimated Project Annual Operational Energy Consumption

Source	Energy Consumption[1]	
Transportation Fuels (Gasoline)	781 gallons	86 MMBtu
Back-up Generator Fuel (Diesel)	872 gallons	111 MMBtu
Electricity	253 MWh	863 MMBtu

MMBtu = million British thermal units; MWh = megawatt-hours

[1] Energy consumption is converted to MMBtu for each source

See Appendix B for energy calculation sheets.

Buildings associated with the project would be required to comply with all standards set in the latest iteration of the California Building Standards Code (California Code of Regulations Title 24), which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources by the built environment during operation. California's CALGreen standards (California Code of Regulations Title 24, Part 11) require implementation of energy-efficient light fixtures and building materials into the design of new construction projects. In addition, the 2022 Building Energy Efficiency Standards (California Code of Regulations Title 24, Part 6) require newly constructed buildings to meet energy performance standards set by the CEC. These standards are specifically crafted for new buildings to result in energy efficient performance so that the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. Pursuant to CALGreen, all plumbing fixtures used for the proposed project would be high-efficiency fixtures, which would minimize the potential for the inefficient or wasteful consumption of energy related to water and wastewater. Furthermore, approximately 300 MWh of the project's electricity demand would be supplied by the existing photovoltaic solar array located within the existing HRCSD wastewater treatment plant location. Vehicle trips associated with the project would represent a minimal increase over existing conditions and would only occur when necessary for operations and maintenance. Vehicles used to complete these trips would be subject to increasingly stringent state and federal fuel efficiency requirements. These factors would minimize the potential of the project to result in the wasteful, inefficient, or unnecessary consumption of energy. Therefore, project operation would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and no impacts would occur.

NO IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

HRCSD has not adopted specific renewable energy or energy efficiency plans with which the project could comply. In addition, the project would be consistent with policies from the County of San Luis Obispo General Plan, including the following (County of San Luis Obispo 2010):

- **Policy E 3.3 Use of renewable energy for water and wastewater.** Promote the use of renewable energy systems to pump and treat water and wastewater (County of SLO 2015).

As stated under *Description of Project*, approximately 300 MWh per year of the project's total electricity would be provided by the existing solar array at the existing facilities. Additionally, SB 100 mandates 100 percent clean electricity for California by 2045. Because the proposed project would be powered partially by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with the General Plan or any

statewide plan. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

NO IMPACT

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2.7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	■
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	☐	■
4. Landslides?	☐	☐	■	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	☐	■
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	■	☐	☐

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The project site is located near a seismically active area of California; however, the project site is not located in an Alquist-Priolo Fault Zone (DOC 2022a). The San Andreas Fault system, which is the most active fault system in California, is approximately 33 miles east of the project site. The Rinconada Fault Zone is the nearest fault zone to the project site and runs north to south through the middle of the county (County of San Luis Obispo 2019). The Rinconada Fault is located approximately 0.25 mile to the east of the spray field location, approximately 2.0 miles east of the replacement effluent pipeline alignment, and approximately 2.5 miles east of the wastewater treatment plant location. The Rinconada Fault is not located on the recent Alquist-Priolo Earthquake Fault Zoning Map (DOC 2022a). However, the California Geologic Survey considers the Rinconada fault to be potentially active (County of San Luis Obispo 2019). Nevertheless, the existing HRCSD facilities are subject to the same risk; therefore, there would no change in the potential for the facilities to cause substantial adverse effects involving rupture of a known earthquake fault directly or indirectly as compared to existing conditions. In addition, the proposed project includes safety and containment improvements for the chemical storage areas at the wastewater treatment plant location, which would minimize the potential for adverse effects to occur during fault rupture. Therefore, the project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault.

NO IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

As noted under item (a)(1), the project site could be subject to seismic ground shaking during an earthquake along the Rinconada fault or other active faults in the region. A large seismic event, such as a seismic shaking or ground failure, could result in breakage of the proposed wastewater plant and/or chemical storage facilities. The existing facilities are subject to the same risk; therefore, there would no change in the potential for the facilities to directly or indirectly cause substantial adverse effects involving strong seismic ground shaking as compared to existing conditions. Furthermore, in the event an earthquake compromised any project component during operation, the project would be required to adhere to the Heritage Ranch Community Major Incident Response Plan (CAL FIRE et al. 2013). Chapter 16.6.4 of the Heritage Ranch Community Major Incident Response Plan outlines protocols that HRCSD will take to maintain system integrity for the WRRF in the event of an emergency such as an earthquake. In addition, the proposed project includes safety and containment improvements for the chemical storage areas at the wastewater treatment plant location, which would minimize the potential for adverse effects to occur during strong seismic ground shaking. Therefore, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The project site is not located within a liquefaction zone or a fault hazard zone (DOC 2022b; County of San Luis Obispo 1999). Therefore, the project would not directly or indirectly cause potential adverse effects related to seismic ground failure, including liquefaction, and no impact would occur.

NO IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is located within an area of high potential risk for a landslide (County of San Luis Obispo 1999). However, according to the United States Geological Survey (USGS), there are no recorded landslides in the project area (USGS 2022). The project includes construction of habitable structures such as office space for employees. However, the project would be constructed in accordance with the current seismic design provisions of the California Building Code and American Water Works Association. The existing facilities are subject to the same risk; therefore, there would no change in the potential for the facilities to directly or indirectly cause substantial adverse effects involving a landslide as compared to existing conditions. Therefore, the project would not expose people or structures to potential substantial adverse effects involving landslides, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. The project site is relatively flat; however, construction of the proposed project would require grading and excavation, which would involve exposing soil such that erosion and topsoil loss could occur.

As noted in Section 2, *Project Description*, project construction activities would be subject to the requirements of the statewide NPDES Construction General Permit, which includes preparation of a SWPPP, because the project disturbance area would be greater than one acre in size. The SWPPP would include Best Management Practices (BMPs) for the project to limit erosion, such as preventing runoff from unprotected slopes, keeping disturbed areas to a minimum, and installing check berms and desilting basins during construction activities, as necessary. Project operation would not involve grading and excavation and would not expose soil such that erosion and topsoil loss could occur. With adherence to the requirements of the Construction General Permit, the project would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Although the proposed project would be located in a seismically active area and an area with high landslide potential, the project site is not located in a liquefaction zone (DOC 2022a; County of San Luis Obispo 1999; USGS 2022). As discussed above under item (b), project facilities would occur on a

relatively flat area that already includes wastewater treatment and conveyance facilities. Design and construction of the proposed project would consider the seismic environment and would comply with applicable seismic design standards. The project also includes upgrades to existing wastewater treatment and conveyance facilities and thus would not result in a change in existing geologic and seismic hazard conditions at the project site. In addition, the proposed project includes safety and containment improvements for the chemical storage areas at the wastewater treatment plant location, which would minimize the potential for adverse effects to occur should soil instability occur. As such, the project would not increase the risk of on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, with compliance with applicable building standards, the proposed project would not significantly affect soil stability or increase the potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No impact would occur.

NO IMPACT

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

The project site is underlain by Dibble clay loam (38 percent clay), Ryer clay loam (44 percent clay), and Dibble Clay Loam (39 percent clay) (United States Department of Agriculture [USDA] Natural Resources Conservation Service 2023). Due to the moderate clay content of on-site soils, there is potential for expansive soils to occur. However, the existing HRCSD facilities are subject to the same risk of expansive soils as the proposed project would be; therefore, there would no change in the potential for facilities to create substantial direct or indirect risks to life or property due to expansive soil as compared to existing conditions. Therefore, the project would not create substantial direct or indirect risks to life or property as a result of expansive soil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The project does not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in “soil” but are contained within the geologic deposits or bedrock that underlie the soil layer. Generally, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on several factors.

A Paleontological Resources Assessment was prepared in October 2023 to determine whether the proposed project would result in significant impacts to paleontological resources (Appendix E). According to this assessment, Quaternary older alluvium, which has high paleontological sensitivity, underlies most of the wastewater treatment plant location and part of the replacement effluent pipeline alignment, and the Atascadero Formation, which has high paleontological sensitivity, underlies the northern part of the wastewater treatment plant location, part of the replacement effluent pipeline alignment, and the entire spray field location (Figure 5; Figure 6).

Ground-disturbing activities (i.e., grading, excavating, trenching) in previously undisturbed portions of the project site that are underlain by geologic units with a high paleontological sensitivity (i.e., Quaternary older alluvium or Atascadero Formation) may result in significant impacts to paleontological resources. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact on paleontological resources.

Ground-disturbing construction activities at the wastewater treatment plant location would consist of grading and excavations that would reach up to approximately 15 feet below the surface. At this depth, undisturbed portions of Quaternary older alluvium and the Atascadero Formation, both of which have high paleontological sensitivity (Figure 5), would likely be impacted. As a result, in the event of an unanticipated discovery, project impacts to paleontological resources would be potentially significant, and implementation of Mitigation Measure GEO-1 would be required at the wastewater treatment plant location to reduce impacts to a less-than-significant level.

Ground-disturbing construction activities for the replacement effluent pipeline would consist of trenching that is expected to reach up to approximately 4.25 feet below the surface. This activity is expected to require excavating approximately 1,165 cubic yards of soil. The replacement pipeline would be installed within the existing roadway, meaning that a substantial proportion of the excavated sediment would consist of non-paleontologically sensitive artificial fill and/or disturbed sediments. Nevertheless, there is potential for previously undisturbed, paleontologically sensitive sediments to be impacted by construction of the replacement effluent pipeline. As a result, in the event of an unanticipated discovery, project impacts to paleontological resources would be potentially significant, and implementation of Mitigation Measure GEO-1 would also be required for the replacement effluent pipeline to reduce impacts to a less-than-significant level.

Ground-disturbing construction activities at the spray field location would only consist of activities impacting previously disturbed sediments. Therefore, construction activities on the spray field location do not have the potential to significantly impact paleontological resources, and no impacts would occur.

Mitigation Measure

GEO-1 Paleontological Resources Monitoring and Mitigation

The following measures shall be implemented during construction at APN 012-181-085:

- **Qualified Paleontologist.** HRCSD shall retain a Qualified Professional Paleontologist, as defined by Society of Vertebrate Paleontology (2010) standards, prior to the construction at APN 012-181-085. The Qualified Professional Paleontologist shall direct all mitigation measures related to paleontological resources.

Figure 5 Geologic Map – Wastewater Treatment Plant Location (APN 012-181-085) and Effluent Pipeline Alignment

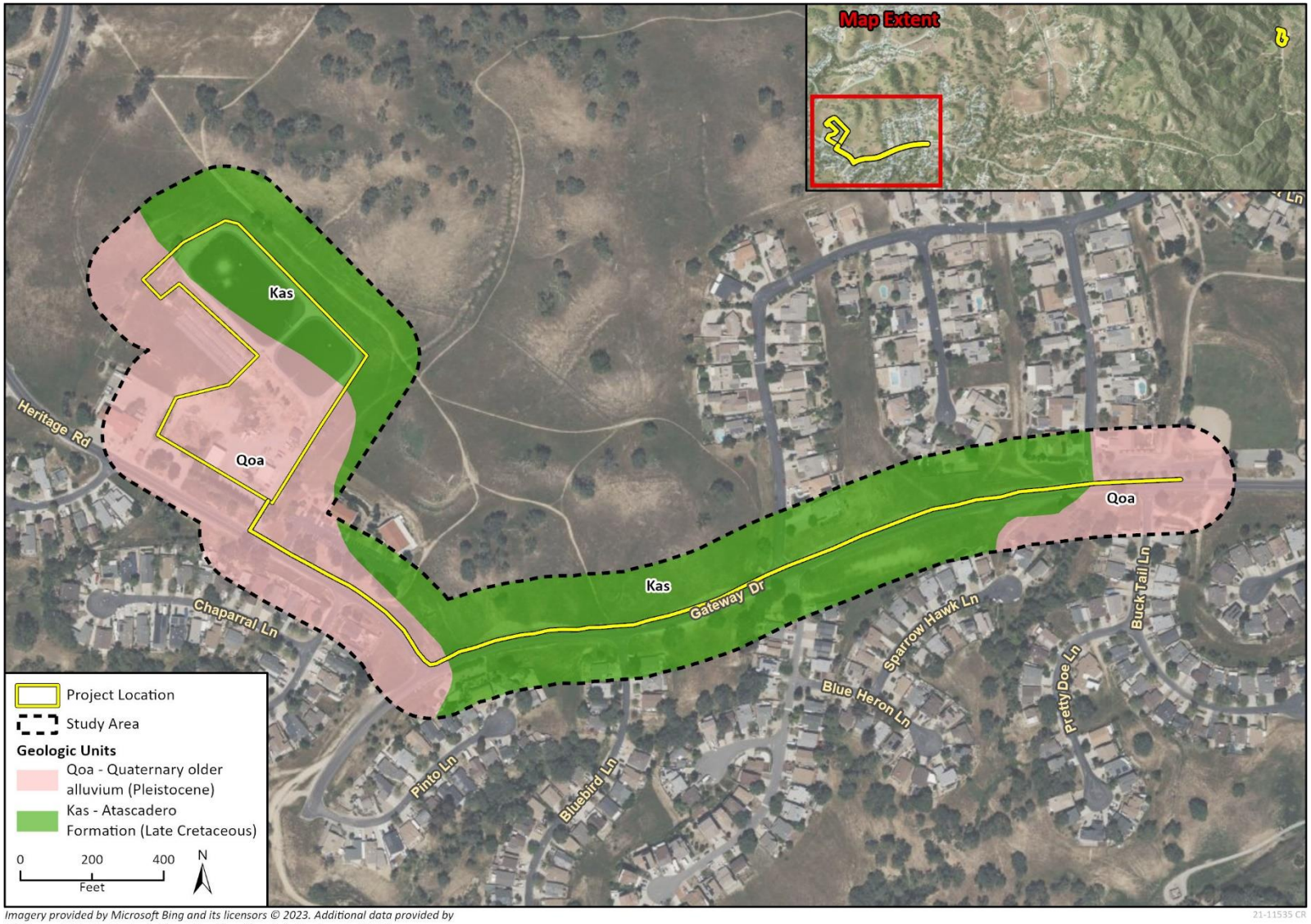
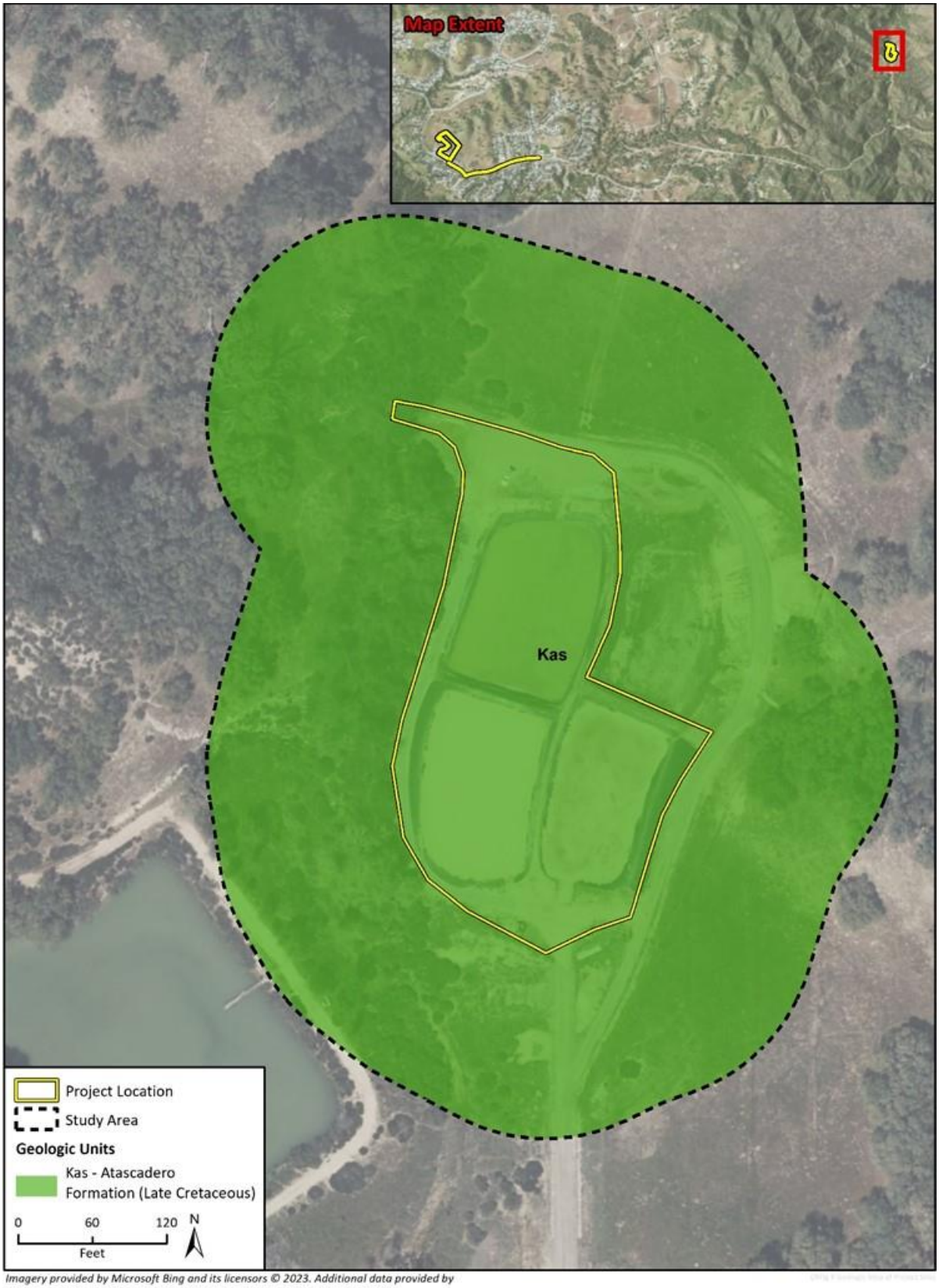


Figure 6 Geologic Map – Spray Field Location (APN 012-361-018)



Imagery provided by Microsoft Bing and its licensors © 2023. Additional data provided by Dibblee and Minch, "Geologic Map of the Lime Mountain Quadrangle," 2007.

- **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff shall fossils be discovered by construction staff.
- **Paleontological Monitoring.** Full-time paleontological monitoring shall be conducted during ground-disturbing construction activities in previously undisturbed sediments associated with construction at APN 012-181-085. Additionally, initial part-time monitoring (i.e., spot-checking) shall be conducted during trenching for the replacement effluent pipeline to determine whether previously undisturbed, high-sensitivity sediments (i.e., Quaternary older alluvium or Atascadero Formation) are being affected. If such sediments are encountered, then full-time monitoring shall be conducted. Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual with experience collecting and salvaging paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring shall be determined by the Qualified Professional Paleontologist based on the observation of the geologic setting from initial ground disturbance and subject to review and approval by HRCSD. If the Qualified Professional Paleontologist determines full-time monitoring is no longer warranted, they may recommend monitoring be reduced to periodic spot-checking or ceased entirely.
- **Fossil Discovery Procedures.** In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Professional Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined the fossil(s) is (are) scientifically significant, the Qualified Professional Paleontologist shall complete the following conditions to mitigate impacts/effects to significant fossil resources:
  - **Fossil Salvage.** If fossils are discovered, the paleontological monitor shall have the authority to halt or temporarily divert construction equipment within 50 feet of the find until the monitor and/or lead paleontologist evaluates the discovery and determines if the fossil may be considered significant.[7]
  - **Fossil Preparation and Curation**. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist.
- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activities at APN 012-181-085 (and curation of fossils if necessary), the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations.

[7] Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or micro vertebrates from within paleontologically sensitive deposits.

The report shall be submitted to HRCSD. If the monitoring efforts produce fossils, a copy of the report shall also be submitted to the designated museum repository.

Significance After Mitigation

Mitigation Measure GEO-1 would entail implementation of a paleontological Worker Environmental Awareness Program training prior to the start of construction, paleontological monitoring, and appropriate treatment procedures in the event of an unanticipated discovery of paleontological resources during ground-disturbing activities. Therefore, implementation of Mitigation Measure GEO-1 would reduce impacts to paleontological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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2.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
g. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	■	☐
h. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	■

Overview of Climate Change and Greenhouse Gas Emissions

Climate change is the observed increase in the average temperature of the Earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of GHG emissions contributing to the "greenhouse effect," a natural occurrence which takes place in Earth's atmosphere and helps regulate the temperature of the planet. Most radiation from the sun hits Earth's surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO_2), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as "carbon dioxide equivalent" (CO_2e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).[8]

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO_2 concentrations is unequivocally due to human activities in the IPCC's Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of

[8] The Intergovernmental Panel on Climate Change's (2021) Sixth Assessment Report determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change's (2007) Fourth Assessment Report. Therefore, this analysis utilizes a GWP of 25.

1850 through 2019, a total of 2,390 gigatonnes of anthropogenic CO_2 was emitted worldwide. It is likely anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO_2, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (USEPA 2022a). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. AB 32 was followed by SB 32 in 2016, which extends AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030. In 2022, AB 1279 established a state policy to reduce statewide anthropogenic GHG emissions by 80 percent below 1990 levels and achieve net zero GHG emissions no later than 2045 as well as maintain net negative GHG emissions thereafter. In response to the passage of AB 1279 and the identification of the 2045 GHG reduction target, CARB published the Final 2022 Climate Change Scoping Plan in November 2022. The 2022 update builds upon the framework established by the 2008 Climate Change Scoping Plan and subsequent updates while identifying new, technologically feasible, cost-effective, and equity-focused path to achieve California's climate target. The 2022 Update includes policies to achieve a significant reduction in fossil fuel combustion, further reductions in short-lived climate pollutants, support for sustainable development, and increase capture, storage, and sequestration of carbon (CARB 2022).

Significance Thresholds

In August 2023, SLO County APCD adopted revised CEQA thresholds for GHG emissions to achieve the State's 2030 and 2045 GHG emissions reduction targets. Three thresholds were recommended for evaluating the level of significance of GHG emissions impacts for land use development projects (e.g., residential, commercial, and mixed-use). The SLO County APCD's thresholds for year 2027 (i.e., the first year of project operation) are 780 MT of CO_2e per year for the bright-line threshold and 3.6 MT of CO_2e per service person per year for the efficiency threshold. The SLO County ACPD guidance states that if a project's emissions are at or below the applicable threshold for its operational year, then the project is considered to be contributing its fair share toward the State's SB 32 GHG reduction target (SLO County APCD 2023).

HRCSD has determined the bright-line threshold of 780 MT of CO_2e per year is appropriate to utilize for the purposes of evaluating the GHG emissions impacts of the proposed project because the project is a land use development project but not a residential, commercial, or mixed-use project that would have a service population.

Methodology

GHG emissions associated with project construction and operation were estimated using CalEEMod version 2022.1.1.19, with the assumptions described under Section 2.3, *Air Quality,* with the

exception of electricity-related emissions. Electricity-related emissions were calculated separately, then added to the results from CalEEMod for area, mobile, solid waste, water, and stationary sources (see Appendix A). Based on data provided by Water Systems Consulting, the project would consume approximately 253 MWh of electricity per year more than under existing conditions. It was conservatively assumed that the net increase in electricity would be supplied by the electricity grid rather than the existing on-site solar array, which currently provides power to the existing wastewater treatment facilities. Construction emissions were amortized over a 50-year period (the estimated project lifetime) and added to the project's operational emissions for comparison to the bright-line threshold.

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Construction of the proposed project would generate temporary GHG emissions primarily as a result of operation of construction equipment on site, vehicles transporting construction workers to and from the project site, and haul trips. As shown in Table 12, construction of the proposed project would generate approximately 4,348 MT of CO_2e. Amortized over the 50-year estimated project lifetime, construction of the proposed project would generate an estimated 87 MT of CO_2e per year.

Table 12 Estimated Construction GHG Emissions

Year	Emissions (MT of CO_2e)
2024	644
2025	1,319
2026	1,481
2027	904
Total	**4,348**
Amortized over 50 years	**87**

MT = metric tons; CO_2e = carbon dioxide equivalents

Notes: Emissions modeling was completed using CalEEMod. See Appendix A for modeling results.

Operation of the proposed project would generate GHG emissions associated with area sources (e.g., landscape maintenance), energy and water usage, vehicle trips, wastewater and solid waste generation, and testing and maintenance of the emergency backup generator. As shown in Table 13, annual operational emissions generated by the proposed project combined with amortized construction emissions would total approximately 123 MT of CO_2e per year, which would not exceed the threshold of 780 MT of CO_2e per year. Therefore, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and impacts would be less than significant.

Table 13 Combined Annual GHG Emissions

Emission Source	Annual Emissions (MT of CO_2e per year)
Construction	87
Operational	
Area	<1
Energy	24
Mobile	<1
Solid Waste	1
Water	1
Stationary	10
Total Emissions	**123**
Threshold	780
Threshold Exceeded?	**No**

MT = metric tons; CO_2e = carbon dioxide equivalents

Notes: Emissions modeling was completed using CalEEMod. See Appendix A for modeling results.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

HRCSD does not have a GHG reduction plan; therefore, there are no local GHG reduction plans that would apply to the proposed project. As discussed in Section 6, *Energy*, the project would not conflict with the County of San Luis Obispo General Plan because a substantial portion of the project's total electricity demand would be supplied by renewable energy, furthering the goals and policies set forth in the Plan.

Additionally, the project would be consistent with the 2022 Scoping Plan and would not conflict with SB 32 emissions targets because the project would utilize on-site renewable energy to offset more than 40 percent of the project's total electricity usage, thereby reducing operational GHG emissions associated with project operation. Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and no impact would occur.

NO IMPACT

2.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	■	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	☐	☐	☐	■
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	■
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	■	☐	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction of the project would temporarily increase the transport and use of hazardous materials in the project area through the operation of vehicles and equipment. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities that would pose a significant hazard to the public or construction workers themselves. The transport, use, and storage of hazardous materials during construction would be conducted in accordance with applicable federal and State laws, such as the Hazardous Materials Transportation Act, California Hazardous Material Management Act, and California Code of Regulations, Title 22.

Operation of the project would involve wastewater treatment processes and discharge of secondary treated effluent and would require the use and storage of hazardous materials. Approximately four to five vehicles would visit the project site each month for purposes such as chemical deliveries. Chemicals on site would include alkalinity chemicals and citric acid, sodium hypochlorite, sodium hydroxide, or similar cleaning chemicals.[9] Risks associated with handling these chemicals would be managed by using secondary containment structures at chemical storage locations, providing adequate access and egress space for chemical delivery trucks, developing hazardous material business response plans, and installing eye-wash and shower stations at each chemical storage and feed location, as appropriate. In addition, the proposed project includes safety and containment improvements for the chemical storage areas at the wastewater treatment plant location. With proper storage and the development of a hazardous materials business plan, the project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

The use, transport, and storage of hazardous materials during construction of the project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. The presence of hazardous materials during project construction activities, including but not limited to ground-disturbing activities, could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations, including but not limited to the California Building and Fire Codes as well as regulations of the federal and State Occupational Safety and Health Administrations. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment during construction, and impacts would be less than significant.

As discussed under item(a) above, operation and maintenance of the project would involve the routine transport, use, or disposal of hazardous materials. However, these hazardous materials would be properly stored in secondary containment structures and would be managed according to

[9] Sodium hypochlorite is a liquid disinfection agent added to the water and is commonly referred to as "bleach." Sodium hypochlorite is not the equivalent of chlorine gas, and chlorine gas would not be used or released during project operation.

the hazardous material business response plans. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The nearest school to the project site is Cappy Culver Elementary School located approximately 1.4 miles north of the wastewater treatment plant and replacement effluent pipeline alignment and approximately 2.0 miles northwest of the spray field location. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. No impact would occur.

NO IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

The following databases compiled pursuant to Government Code Section 65962.5 were checked for known hazardous materials contamination:

- California State Water Resources Control Board (SWRCB) – GeoTracker search for leaking underground storage tanks (LUST) and other cleanup sites (SWRCB 2022);
- California Department of Toxic Substances Control – EnviroStor database for hazardous waste facilities or known contamination sites (California Department of Toxic Substances Control 2022); and
- USEPA Superfund Enterprise Management System Search (USEPA 2022b).

The project site is not listed in the above environmental databases, and no other listed sites are located within 1,000 feet of the project site. Therefore, the project would not create a significant hazard to the public or the environment related to location on a hazardous materials site. No impact would occur.

NO IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The nearest public airport or public use airport to the project site is Paso Robles Municipal Airport located approximately 15 miles to the southeast. The project is not located within the airport land use plan for this airport (San Luis Obispo County Airport Land Use Commission 2006). Therefore, the project would not result in a safety hazard or excessive noise for people residing or working in the project area. No impact would occur.

NO IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The County of San Luis Obispo's Emergency Operations Plan is the applicable emergency response plan for the project area (County of San Luis Obispo 2017). During construction, temporary lane closures along Heritage Road may be required due to large delivery and haul trucks entering and exiting the wastewater treatment plant location, which could slow traffic through the local area and thereby affect implementation of emergency response and emergency evacuation plans. In addition, single-lane closures along Heritage Road and Gateway Drive would be required during construction for the replacement effluent pipeline. Therefore, impacts during construction activities would be potentially significant, and implementation of Mitigation Measure HAZ-1 would be required to reduce impacts to a less-than-significant level.

The project would not modify or block current emergency access routes or site ingress and egress. During operation, the project would be required to adhere to the Heritage Ranch Community Major Incident Response Plan (CAL FIRE et al. 2013). As outlined in Chapter 16.6 of this plan, HRCSD must take specific steps for HRCSD in order to maintain wastewater treatment in case of an emergency. HRCSD would be required to follow these protocols during project operation in the event of an emergency. Therefore, project operation would not interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

Mitigation Measure

HAZ-1 Traffic Control Plan

HRCSD shall require the project contractor(s) to prepare and implement a traffic control plan that specifies how traffic will be safely and efficiently redirected during lane closures. All work shall comply with the Work Area Traffic Control Handbook, which conforms to the standards and guidance of the California Manual on Uniform Traffic Control Devices. Traffic control measures for lane closures shall be included, and priority access shall be given to emergency vehicles. The traffic control plan shall also include requirements to notify local emergency response providers at least one week prior to the start of work when lane closures are required.

Significance after Mitigation

Mitigation Measure HAZ-1 would require the project contractor(s) to safely redirect traffic, utilize traffic control measures, and give emergency response providers advance notification and priority access such that the potential for project construction activities to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan would be minimized. Therefore, implementation of Mitigation Measure HAZ-1 would reduce impacts to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

h. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

As discussed in detail in Section 20, *Wildfire*, the project site is located within a State Responsibility Area (SRA) (CAL FIRE 2022). The project would include upgrades to the existing HRCSD wastewater treatment plant and spray field and would not result in a change of land use at the project site. During construction activities, the use of spark-producing construction machinery within or adjacent to areas of high fire hazard could potentially create hazardous fire conditions and expose

construction workers and nearby residents to wildfire risks. However, pursuant to California Public Resources Code Section 4442, earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildland fire, which would minimize this risk. Modifications to the existing wastewater treatment plant would include construction of new office space that maintenance staff would visit daily, which would represent a slight increase from the current maintenance regime and thus incrementally increase the potential for exposure of HRCSD staff to wildland fire hazards. Nevertheless, the project would not include potential ignition sources, and chemicals stored on site, some of which may be flammable, would be contained in secondary containment structures with hazardous material business response plans developed and implemented in the event of an emergency. Therefore, the project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	■
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	☐	■
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☐	■
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☐	■
(iv) Impede or redirect flood flows?	☐	☐	☐	■
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	■
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	■

c. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The project site is located in the Central Coast hydrological region. The nearest surface water bodies to the wastewater treatment plant location are Snake Creek, located 0.1 mile to the south, and Lake Nacimiento, located approximately 0.2 mile to the southwest. The nearest surface water body to the spray field location is Snake Creek, located approximately 0.7 mile to the southwest.

Construction

As stormwater flows over a construction site, it can pick up sediment, debris, and chemicals, and transport them to receiving water bodies. Temporary site preparation and grading activities associated with the project may result in soil erosion. Construction activities could also affect water quality in the event of an accidental fuel or hazardous materials leak or spill. As detailed in Section 2.7*, Geology and Soils*, the proposed project would be required to comply with erosion BMPs outlined in the SWPPP for the project. In addition, as described in Section 2.9, *Hazards and Hazardous Materials,* accidental leaks or spills of hazardous materials that may occur during project construction would be cleaned up and disposed of in accordance with applicable regulations. Therefore, project construction would not violate any water quality standards or waste discharge requirements or substantially degrade surface or groundwater quality. Impacts would be less than significant.

Operation

Upon completion of the proposed project, the existing potential for unexpected leaks and/or breakages of existing project components, which could affect water quality should untreated sewage enter a water body, would be reduced due to system improvements. In addition, the purpose of the project is to upgrade the existing wastewater treatment process such that the water quality of wastewater discharge at the existing HRCSD outfall complies with Waste Discharge Order No. R3-2017-0026. Furthermore, the nearest surface water bodies are separated from the project site by intervening development, which reduces the potential for contaminants released during project construction or operation to enter these water bodies prior to being contained and cleaned up. Therefore, project operation would not violate any water quality standards or waste discharge requirements or substantially degrade surface or groundwater quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The project site does not overlay a groundwater basin (California Department of Water Resources 2022). No long-term use of groundwater supplies would be required for the proposed project. Therefore, the project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. No impact would occur.

NO IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

The project involves upgrades to existing HRCSD wastewater treatment and conveyance facilities. The project does not propose alterations to the course of a stream or river. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the project site is not located within a 100-year flood hazard area (Zone AE) (FEMA 2012 and 2021).

The project would result in a net decrease in impervious surfaces at the wastewater treatment plant location due to the removal of one of the existing lined ponds and would not change the quantity of impervious surfaces along the replacement effluent pipeline alignment or at the spray field location. As such, the project would not add impervious surfaces that could result in substantial erosion or siltation; increase the rate or amount of surface runoff such that on- or off-site flooding occurs; exceed stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. No impacts would occur.

NO IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project site is approximately 19.4 miles east of the Pacific Ocean and thus is not located in a tsunami inundation zone. The project site is not located in a flood zone (FEMA 2012 and 2021). The project site is located approximately 0.2 mile northeast of Lake Nacimiento, which has the potential to be subject to risk of seiche. However, the project involves upgrades to existing HRCSD wastewater treatment and conveyance facilities in their current location and thus would not present a new risk of pollutant release due to project inundation should a seiche occur. Therefore, the project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. No impact would occur.

NO IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project site is subject to the 2019 Water Quality Control Plan for the Central Coast Basin (Basin Plan), established by the Central Coast Regional Water Quality Control Board. The Basin Plan establishes narrative and numerical water quality objectives and includes total daily maximum loads, which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region (Central Coast Regional Water Quality Control Board 2019). As discussed under item (a), the proposed project would not generate substantial erosion, and accidental leaks or spills of hazardous materials that may occur during construction would be remediated in accordance with applicable regulations. In addition, the project would bring the HRCSD wastewater treatment plant and spray field in compliance with Waste Discharge Order No. R3-2017-0026 by improving the water quality of the effluent discharged at the existing outfall. As such, the proposed project would not conflict with or obstruct implementation of the Basin Plan, and no impact would occur.

As mentioned under item (b), the project site does not overlay any groundwater basin. Therefore, the project is not subject to a sustainable groundwater management plan. As such, the project would not conflict with or obstruct implementation of a sustainable groundwater management plan. No impact would occur.

NO IMPACT

2.11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	■	☐	☐

a. Would the project physically divide an established community?

The proposed project includes upgrades to existing HRCSD wastewater treatment and conveyance facilities. Project components would be situated within HRCSD property and would function similarly to the existing facilities. Lane closures during construction would be temporary and intermittent. Therefore, the project would not physically divide an established community, and no impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project site is located within unincorporated San Luis Obispo County in the community of Heritage Ranch. Both parcels comprising the project site have a General Plan land use designation of Public Facilities. Neither parcel has a zoning designation because the County does not assign zoning designations to parcels in unincorporated areas. However, both parcels have a combining designation of Geologic Study Area, and a small portion of APN 012-361-018 has a combining designation of Renewable Energy, which extends into the existing spray field. The replacement effluent pipeline alignment is located within a public right-of-way and does not have a zoning, land use, or combining designation.

The proposed project would not require a zone change or General Plan amendment. The project would bring the existing HRCSD wastewater treatment system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed project would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity). In addition, growth in the Heritage Ranch community is constrained by the limitations in San Luis Obispo County Code Section 22.104.030(A)(2), which restricts the total number of residential units (including existing recreational vehicle sites) in the Heritage Ranch community to 2,900 units.

Pursuant to California Government Code 53091, the building and zoning ordinances of a county or city do not apply to the location or construction of facilities for the production, storage, or transmission of water, wastewater, or electrical energy by a local agency. Therefore, the project would not be subject to the requirements of the Geologic Study Area and Renewable Energy combining designations and the following information is provided for informational purposes only. According to San Luis Obispo County Code Chapter 22.14.070, a Geologic Study Area, which applies to both parcels, is applied to areas where geologic and soil conditions could present new developments and their users with potential hazards to life and property. However, as noted in Section 7, *Geology and Soils*, the project would not result in a change in existing geologic and seismic hazard conditions at the project site and therefore would not conflict with the intent of this designation to protect life and property from adverse geologic and soil conditions. The Renewable Energy combining designation, which applies to a portion of the spray field location, is used to encourage and support the development of local renewable energy resources, conserving energy resources and decreasing reliance on environmentally costly energy sources and is used where renewable energy production is favorable and prioritized (SLOCC Section 22.14.100; County of San Luis Obispo 1980). The spray field location does not currently contain renewable energy development, and the proposed project would not result in changes to land use at this location that would conflict with renewable energy development. Therefore, the project would not conflict with the Renewable Energy combining designation.

For the purposes of CEQA analysis under this threshold, the project is only evaluated for consistency with the San Luis Obispo County General Plan. The County of San Luis Obispo General Plan Framework for Planning (Inland) contains policies and procedures that apply to the unincorporated area outside the coastal zone, defining how the Land Use Element is used together with the Land Use Ordinance and other adopted plans. The County's Framework for Planning (Inland) states, "Sewer service should not be extended beyond urban service lines where such extension would impair the adequacy of service within the urban service line or where such extension would not be in conformity with the general plan. Facilities should be located and designed so as to minimize conflicts with surrounding uses. Heavily populated areas should be avoided in site selection." The proposed project would be consistent with this guidance because it would only serve existing and planned growth in the Heritage Ranch Community, as discussed earlier, and would be sited on the same properties currently used by HRCSD for wastewater treatment such that no new conflicts with surrounding uses would be created. In addition, the project would be in furtherance of Policy E 3.3 of the County of San Luis Obispo General Plan (2010), which encourages the use of renewable energy systems to pump and treat water and wastewater, because the existing solar array at the HRCSD wastewater treatment plant would be utilized to partially offset the proposed project's energy demand.

As noted throughout this document, the project would result in no impact, less than significant impacts, or less than significant impacts with the incorporation of mitigation measures for all issue areas evaluated, including biological resources, cultural resources, paleontological resources, hazardous materials, noise, transportation, and wildfire. As a result, the proposed project would be consistent with the goals and policies outlined in the San Luis Obispo County General Plan as they relate to these topics. Therefore, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

2.12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

According to Mineral Land Classification Maps prepared by the DOC, the project site is not underlain by a known mineral resource (DOC 2015). In addition, the proposed project would not involve mineral extraction or changes in land use that could affect the availability of mineral resources. Therefore, no impacts to mineral resources would occur.

NO IMPACT

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2.13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	■	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	■	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	■

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not "sound twice as loud" as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions.

Sound levels are described as either a "sound power level" or a "sound pressure level," which are two distinct characteristics of sound. Both share the same unit of measurement, the dB. However, sound power (expressed as L_{pw}) is the energy converted into sound by the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers, such as an eardrum or microphone, which is the sound pressure level. Sound measurement instruments only measure sound pressure, and noise level limits are typically expressed as sound pressure levels.

Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce exposure to noise as well.

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this study are the equivalent noise level (L_{eq}), Day-Night Average Level (DNL; may also be symbolized as L_{dn}), and the community noise equivalent level (CNEL; may also be symbolized as L_{den}).

L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Groundborne Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern resulting from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby buildings or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 14.

Table 14 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

Source: Caltrans 2020

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 15.

Table 15 Vibration Annoyance Potential Criteria

	Vibration Level (in/sec PPV)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources[1]**
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity

Source: Caltrans 2020

[1] Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Project Noise Setting

Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. The San Luis Obispo General Plan Noise Element identifies noise-sensitive land uses as residential development, schools, health care services, nursing and personal care, churches, public assemblies, libraries and museums, hotels and motels, bed and breakfast facilities, outdoor recreation, and offices (County of San Luis Obispo 1992). The nearest noise-sensitive receivers to the wastewater treatment plant location are single-family homes approximately 180 feet to the southwest across Heritage Road, and the nearest noise-sensitive receivers to the spray field location are single-family homes approximately 0.9 mile to the southwest. The nearest noise-sensitive receivers to the replacement effluent pipeline alignment are single-family homes located in neighborhoods off Heritage Road and Gateway Drive, the closest of which is approximately 50 feet from the proposed alignment.

Regulatory Setting

San Luis Obispo County General Plan

The San Luis Obispo County General Plan Noise Element provides a policy framework within which potential noise impacts may be addressed during project review and long range planning. The Noise Element establishes the following goals and policies that would apply to the proposed project (County of San Luis Obispo 1992):

Goal 1: To protect the residents of San Luis Obispo County from the harmful and annoying effects of exposure to excessive noise.

Goal 3: To preserve the tranquility of residential areas by preventing the encroachment of noise-producing uses.

Goal 5: To avoid or reduce noise impacts through site planning and project design, giving second preference to the use of noise barriers and/or structural modifications to buildings containing noise-sensitive land uses.

Policy 3.3.1: The noise standards in this chapter represent maximum acceptable noise levels. New development should minimize noise exposure and noise generation.

Policy 3.3.5 (b): Noise levels shall be reduced to or below the noise level standards in Table 3-2 (reproduced herein as Table 16) where the stationary noise source will expose an existing noise-sensitive land use (which is listed in the Land Use Element as an allowable use within its existing land use category) to noise levels which exceed the standards in Table 3-2 (reproduced herein as Table 16).

Policy 3.3.5 (c): Noise levels shall be reduced to or below the noise level standards in Table 3-2 (reproduced herein as Table 16) where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential Rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3- 2 (reproduced herein as Table 16).

Policy 3.3.6: San Luis Obispo County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses.

Table 16 Maximum Allowable Exposure – Stationary Noise Sources[1]

	Daytime (7:00 a.m. – 10:00 p.m.)	Nighttime (10:00 p.m. – 7:00 a.m.)[2]
Hourly L_{eq} (dBA)	50	45
Maximum Noise Level (dBA)	70	65
Maximum Impulsive Noise Level (dBA)	65	60

L_{eq} = equivalent noise level; dBA = A-weighted decibel

[1] Noise level limits apply to the property line of the receiving use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receiver side of noise barriers or other property line noise mitigation measures.

[2] Applies only where the receiving land use operates or is occupied during nighttime hours.

San Luis Obispo County Code

To implement the County's noise policies, SLOCC Section 22.10.120 (Noise Standards) establishes standards for acceptable exterior and interior noise levels and protect persons from excessive noise levels. According to Government Code Section 53091, building and zoning ordinances of a county or city shall not apply to the location or construction of facilities for the production, generation, storage, treatment, or transmission of water. Because the County's noise standards are contained within its land use ordinance (San Luis Obispo County Code Title 22), the project would not be subject to compliance with the noise standards contained in San Luis Obispo County Code Section 22.10.120. Therefore, the following summary is provided only for the purpose of providing context for the thresholds utilized in the CEQA analysis of the project's noise impacts:

- **SLOCC Section 22.10.120(B).** Set exterior noise level standards for noise-sensitive uses. These exterior noise level standards are equivalent to the hourly equivalent sound level and maximum level standards contained in the San Luis Obispo County General Plan Noise Element Table 3-2 (reproduced herein as Table 16). In the event the measured ambient noise level exceeds the applicable exterior noise level standard, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB.

- **SLOCC Section 22.10.120(D)(1).** Specifies that noise levels from air conditioning and refrigeration systems shall not exceed 50 dBA $L_{eq(1h)}$ as measured at the property line of a noise-sensitive land use.

Noise Level Increases over Ambient Noise Levels

The operational and construction noise limits used in this analysis are set at reasonable levels at which a substantial noise level increase as compared to ambient noise levels would occur. Operational noise limits are lower than construction noise limits to account for the fact that permanent noise level increases associated with continuous operational noise sources typically result in adverse community reaction at lower magnitudes of increase than temporary noise level increases associated with construction activities that occur during daytime hours and do not affect sleep. Furthermore, these noise limits are tailored to specific land uses; for example, the noise limits for residential land uses are lower than those for commercial land uses. The difference in noise limits for each land use indicates that the noise limits inherently account for typical ambient noise levels associated with each land use. Therefore, an increase in ambient noise levels that exceeds these absolute limits would also be considered a substantial increase above ambient noise levels. As such, a separate evaluation of the magnitude of noise level increases over ambient noise levels would not provide additional analytical information regarding noise impacts and therefore is not included in this analysis.

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction Noise

Construction activity would generate temporary noise in the project site vicinity, exposing surrounding sensitive receivers to increased noise levels. Noise would be generated by heavy-duty diesel construction equipment used for demolition, rock breaking, site preparation, grading, trenching, building construction, infrastructure installation, and paving activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would typically be higher during the more equipment-intensive phases of initial construction (i.e., demolition, site preparation, and grading work) and would be lower during the later construction phases (i.e., trenching, building construction, infrastructure installation, and paving). Construction noise was estimated using reference noise levels and equipment use factors from the FHWA Roadway Construction Noise Model (RCNM; 2006). Construction noise impacts were modeled only at the nearest sensitive receivers to the wastewater treatment plant and replacement effluent pipeline locations because there are no sensitive receivers within 4,500 feet of the spray field location.

Noise impacts from construction equipment are typically assessed from the center of the equipment activity area over the time period of a construction day (e.g., construction site, demolition area, grading area, etc.). The closest sensitive receivers to construction at the wastewater treatment plant location would be residences approximately 180 feet southwest of the project site boundary. Over the course of a typical construction day, the construction equipment would be mobile and would operate at an average distance of 400 feet from the nearest sensitive receivers. Due to the size of the wastewater treatment plant location, modeling assumes simultaneous operation of two compactors, a dozer, and a scraper during the site preparation phase.

Because the precise location of rock breaking activities is unknown, rock breaking was modeled separately and assumed to occur at the project site boundary nearest to the noise-sensitive receivers located approximately 180 feet to the southwest. Modeling of rock breaking activities assumes simultaneous operation of an excavator and a front-end loader.

Along the replacement pipeline effluent alignment, construction equipment would be located as close as 50 feet from the nearest residence but would typically be located at an average distance farther away due to the nature of construction equipment movement and the linear nature of the pipeline alignment. For example, during an average construction day near sensitive receivers, equipment may operate between 50 feet to 200 feet from the nearest receivers. Therefore, it was assumed equipment would operate at an average distance of 100 feet.

For the purposes of analyzing construction noise impacts from this project, the FTA *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018) criteria were used. The FTA provides reasonable criteria for assessing construction noise impacts based on the potential for adverse community reaction. For residential uses, the daytime noise threshold is 80 dBA L_{eq} for an 8-hour period (FTA 2018).

At the nearest sensitive receivers to the wastewater treatment plant location, maximum hourly noise levels were estimated to be 65.6 dBA L_{eq} at a distance of 400 feet for general construction activities and 67.9 dBA L_{eq} at a distance of 180 feet for rock breaking activities. At the nearest sensitive receivers to the replacement effluent pipeline alignment, maximum hourly noise levels were estimated to be 77.4 dBA L_{eq} at a distance of 100 feet for construction activities (RCNM calculations are included in Appendix F). Therefore, construction noise levels would not exceed the daytime construction noise threshold of 80 dBA L_{eq}. For both locations, construction noise levels at other nearby sensitive receivers would be less than the noise levels at the nearest sensitive receiver due to distance attenuation. Therefore, construction noise impacts would be less than significant.

On-site Operational Noise

Upon completion, project components would resume operating in a similar fashion to existing conditions. New sources of operational noise would include the HVAC at the proposed office building and routine testing and maintenance of the on-site backup generator. HVAC equipment is a continuous noise source, and noise levels can reach up to 70 dBA L_{eq} at a distance of 15 feet from the source (Illingworth & Rodkin, Inc. 2009). At a distance of 180 feet, noise from HVAC would be approximately 43 dBA, which is below the threshold set forth in the SLOCC of 50 dBA L_{eq} for daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA L_{eq} for nighttime hours (10:00 p.m. to 7:00 a.m.).

Testing of the proposed 350-kW diesel backup generator (similar or equivalent to a CAT D350 GC) generator would occur during daytime hours. The proposed generator would be enclosed in a Level 2 Sound Attenuated Enclosure, and noise levels during testing would reach approximately 71 dBA L_{eq} at a distance of 23 feet (see Appendix F for manufacturer specifications). At a distance of 180 feet, generator noise would reach approximately 53 dBA L_{eq}, which would exceed the threshold set forth in the SLOCC Section 22.10.120(B) of 50 dBA L_{eq} for daytime hours (see Table 16). Therefore, project operation would generate a substantial temporary increase in ambient noise levels in the vicinity of the project during generator testing activities, and impacts would be potentially significant. Implementation of Mitigation Measure NOI-1 would be required to reduce impacts to a less-than-significant level.

Off-site Roadway Noise

As discussed in Section 17, *Transportation*, project operation would require daily maintenance visits and periodic chemical delivery and biosolids disposal trips, which would represent a slight increase over existing conditions. On a day that all visits coincide, the project would generate approximately six daily trips. Generally, a doubling of traffic (i.e., a doubling of the sound energy) would result in a 3 dBA increase. The project-related traffic increase of six daily trips has low potential to result in doubling of traffic volumes on Heritage Road, which are likely much higher than six daily trips given it provides local access to numerous residences. Therefore, project-related traffic would not result in a substantial permanent increase in ambient noise levels on nearby roadways. Impacts to roadway noise levels would be less than significant.

Mitigation Measure

NOI-1 Operational Noise Reductions

HRCSD shall reduce operational noise levels from the project's emergency generator to not exceed the daytime exterior noise limit for stationary noise sources of 50 dBA L_{eq} contained in SLOCC Section 22.10.120(B). HRCSD shall achieve consistency with the noise limits by implementing one the following measures:

- Site the generator at least 260 feet away from the nearest residences;
- Select a generator model that emits noise levels at or below 67.5 dBA L_{eq} at 23 feet; or
- Install a solid barrier around the southern portion of the generator, tall enough to break the line of sight between the generator and closest residences. The barrier/enclosure shall be constructed of a material with a minimum weight of four pounds per square foot with no gaps or perforations to the south. The barrier may be constructed of, but is not limited to, masonry block, concrete panels, 1/8 inch thick steel sheets, 1-1/2 inch wood fencing, or 1/4 inch glass panels. If wood is used as the primary barrier component, the fence boards shall overlap or be of "tongue and groove" construction with a joining compound between the boards to ensure there would be no gaps or holes in the fence, and annual inspection and maintenance shall be conducted for the life of the project to ensure the barrier continues to perform to the minimum requirements.

Significance After Mitigation

With implementation of Mitigation Measure NOI-1, noise levels produced during generator testing would be reduced to at or below 50 dBA L_{eq} (the daytime exterior noise level limit for stationary noise sources outlined in SLOCC Section 22.10.120[B]). Therefore, implementation of Mitigation Measure NOI-1 would reduce operational noise impacts to a less-than-significant level.

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b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction

Project construction would not involve activities typically associated with excessive groundborne vibration such as pile driving or blasting. The equipment utilized during project construction that

would generate the highest levels of vibration would include rollers, loaded trucks, and bulldozers. Neither HRCSD nor the County of San Luis Obispo has adopted standards to assess vibration impacts during construction. However, Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. The thresholds of significance used in this analysis to evaluate vibration impacts are based on these impact criteria, as summarized in Table 15.

Project construction may require operation of vibratory equipment such as vibratory rollers, loaded trucks, and bulldozers within 50 feet of the nearest structure, which is a single-family home located south of the replacement effluent pipeline alignment. There are no structures within 4,500 feet of the spray field location; therefore, this analysis focuses on potential vibration impacts resulting from construction activities at the wastewater treatment plant and replacement effluent pipeline locations.

As shown in Table 17, vibration levels from individual pieces of construction equipment would not exceed the threshold for structural damage to engineered structures of 1.0 in/sec PPV or the threshold for human annoyance (i.e., the level at which transient vibration sources would be distinctly perceptible) of 0.25 in/sec PPV. Construction vibration levels at all other buildings in the immediate vicinity, including other residences near the replacement effluent pipeline alignment and residences to the south of the wastewater treatment plant location, would be less than the levels shown in Table 17 because vibration levels would attenuate with distance. Therefore, construction vibration impacts would be less than significant.

Table 17 Vibration Levels at Sensitive Receivers

Equipment	Estimated Vibration Level at Nearest Building (in/sec PPV)
Vibratory Roller	0.10
Large Bulldozer	0.04
Loaded Truck	0.04
Threshold for Structural Damage	**1.0**
Threshold Exceeded?	No
Threshold for Human Annoyance	**0.25**
Threshold Exceeded?	No

in/sec = inches per second; PPV = peak particle velocity
See Appendix F for vibration analysis worksheets.

Operation

The project includes upgrades to existing wastewater treatment and conveyance facilities and would not introduce new significant stationary sources of vibration, such as manufacturing or heavy equipment operations. No operational vibration impact would occur.

LESS THAN SIGNIFICANT IMPACT

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The airport closest to the project site is the Camp Roberts Airfield, which is located approximately six miles to the east. The project site is not located within noise contours shown in Figure 4.8-3 of the Camp Roberts Joint Land Use Study (Matrix Design Group 2013). In addition, the project site is not in close proximity to a private airstrip. Therefore, the project would not expose people residing or working in the project area to excessive noise levels from airport noise. No impact would occur.

NO IMPACT

2.14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project would bring the existing HRCSD wastewater treatment system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed project would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity). In addition, growth in the Heritage Ranch community is constrained by the limitations in San Luis Obispo County Code Section 22.104.030(A)(2), which restricts the total number of residential units (including existing recreational vehicle sites) in the Heritage Ranch community to 2,900 units. In addition, the project does not include construction of housing. As a result, the project would not directly or indirectly induce substantial unplanned population growth. In addition, the project does not include components that would displace existing people or result in the demolition of housing. Therefore, no impacts to population and housing would occur.

NO IMPACT

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2.15 Public Services

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a.	Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
	1 Fire protection?	☐	☐	☐	■
	2 Police protection?	☐	☐	☐	■
	3 Schools?	☐	☐	☐	■
	4 Parks?	☐	☐	☐	■
	5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project involves upgrades to existing HRCSD wastewater treatment and conveyance facilities and would not introduce new infrastructure requiring additional fire or police protection services. As described in Section 2.14, *Population and Housing*, the project would not result in a net increase in wastewater treatment capacity as compared to the existing capacity of HRCSD's wastewater treatment facility and thus would not induce unplanned population growth. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives. No impacts would occur.

NO IMPACT

2.16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	■
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	■

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

As described in Section 2.14, *Population and Housing*, the project would not result in a net increase in wastewater treatment capacity as compared to the existing capacity of HRCSD's wastewater treatment facility and thus would not induce unplanned population growth. Therefore, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. The project also does not include recreational facilities and does not require the construction or expansion of recreational facilities. No impacts related to recreation would occur.

NO IMPACT

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2.17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	■	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☐	■
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	☐	☐	☐	■
d. Result in inadequate emergency access?	☐	■	☐	☐

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The County's Land Use and Circulation Element includes goals to facilitate traffic movement and alleviate congestion by protecting public transportation facilities, encouraging land use patterns that reduce automobile dependence, and requiring new development to be located and designed with convenient access to efficient transportation options (County of San Luis Obispo 1980).

Construction-related vehicle trips would include construction workers traveling to and from the project site, haul trucks (including for export of demolition debris and soil), and other trucks associated with equipment and material deliveries. Approximately ten to 25 construction workers would commute to and from the site each day. Primary access to the site would be provided via Heritage Road for the wastewater treatment plant location and Nacimiento Lake Drive for the spray field site. During the demolition phase, approximately one to two roundtrips per week would occur to export debris. Approximately one round trip per day for soil and fill material export/import for pipeline installation would be required. Trucks would access the project site from the U.S. 101 using roadways such as 24th Street, Nacimiento Lake Drive, Gateway Drive, and Heritage Road. Temporary lane closures along Heritage Road may be required during construction when large trucks are entering and exiting the wastewater treatment plant site.

Construction equipment and materials would be staged on site and along the replacement effluent pipeline alignment in the designated work area. Given that construction would be a short-term and temporary activity, trips would account for a relatively small portion of existing traffic on area roadways. In addition, implementation of Mitigation Measure HAZ-1, which requires a traffic control plan, would further minimize construction-related traffic impacts. Therefore, project construction

would not conflict with a program, plan, ordinance, or policy addressing the circulation system impacts, and impacts would be less than significant with mitigation incorporated.

Operation of the project would include daily maintenance visits, which would be a slight increase compared to the current maintenance regime. The slight increase in vehicle activity associated with the project would not have the potential to conflict with a program, plan, ordinance or policy addressing the circulation system. Therefore, operational impacts would be less than significant.

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b. Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the Guidelines state vehicle miles traveled (VMT) exceeding an applicable threshold of significance may indicate a significant impact. According to Section 15064.3(b)(3) of the CEQA Guidelines, a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate the VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. Neither HRCSD nor the County has adopted VMT thresholds.

A VMT calculation is typically conducted on a daily or annual basis, for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would temporarily increase during project construction due to worker trips and the necessary transport of construction vehicles, equipment, and soil material to and from the project site. Increases in VMT from construction would be short-term, minimal, and temporary. Increases in VMT for operation would be minimal. Conservatively assuming the daily maintenance visit, periodic chemical delivery, and biweekly biosolids disposal hauling occur on the same day, project operation would generate six daily trips. The Governor's Office of Planning and Research *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018) states, "Projects that generate or attract fewer than 110 trips per day generally may be assumed to cause a less-than-significant VMT impact." The project's estimated maximum daily trip generation of six trips per day falls below the recommended screening threshold for small projects of 110 daily trips. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). No impact related to VMT would occur.

NO IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

The project would not involve the construction of new roads or reconfiguration of any roadways or intersections that could result in a substantial increase in traffic hazards. Construction equipment would be staged on site, which would not create traffic hazards. Furthermore, the project would not introduce new land uses to the project site, and adequate access and egress space for chemical delivery trucks would be provided. As such, the project would not substantially increase hazards due to a geometric design feature or incompatible use, and no impact would occur.

NO IMPACT

d. Would the project result in inadequate emergency access?

During construction, temporary single-lane closures along Heritage Road and Gateway Drive would be required during construction of the replacement effluent pipeline. Additionally, temporary single-lane closures may be required on Heritage Road to accommodate large trucks entering and exiting the wastewater treatment plant location, which could slow traffic through the local area and thereby result in inadequate emergency access. As outlined in Section 9, *Hazards and Hazardous Materials*, Mitigation Measure HAZ-1 would require a traffic control plan that specifies how traffic would be safely and efficiently redirected during lane closures. Therefore, with mitigation incorporated, project construction would not result in inadequate emergency access.

As described earlier, project operation would not result in a significant increase in traffic that could cause congestion and affect local emergency access. As a result, operational impacts would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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2.18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?	☐	☐	☐	■
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☐	■

On July 1, 2015, Assembly Bill 52 (AB 52) was enacted, expanding CEQA by defining a new resource category, "tribal cultural resources." AB 52 states, "a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment" (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Sections 21074 (a)(1)(A-B) define tribal cultural resources as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" and are:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k); or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). In applying

these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to "begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project." Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

On September 16, 2022, HRCSD distributed the original AB 52 consultation letters for the proposed project, including project information, a map, and HRCSD contact information, to nine Native American tribes. The original AB 52 consultation letters were sent, via email with read receipt requested, to the following tribal governments:

- Barbareño/Ventureño Band of Mission Indians
- Chumash Council of Bakersfield
- Northern Chumash Tribal Council
- Salinan Tribe of Monterey, San Luis Obispo Counties
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- Tule River Indian Tribe
- Xolon-Salinan Tribe
- *yak tityu tityu yak tiłhini* – Northern Chumash Tribe

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. The following summarizes responses received in response to the original AB 52 letters sent by HRCSD.

- **Barbareño/Ventureño Band of Mission Indians.** On September 19, 2022, Chairperson Julie Tumamait-Stenslie responded via email and stated that she deferred to the *yak tityu tityu yak tiłhini* – Northern Chumash Tribe.
- **Xolon Salinan Tribe.** On September 29, 2022, Chairperson Karen White responded via email stating that she was aware of a few potential areas considered sensitive but that she did not believe any of them are within the project site. She recommended a Xolon-Salinan monitor be present for any substantial ground-disturbing activities.
- **Salinan Tribe of Monterey.** On October 3, 2022, Ms. Patti Dutton, Tribal Administrator, responded via email suggesting a Phase I survey of the Area of Potential Effects as the area was populated by the Salinan people. She also recommended a tribal monitor be present during all ground-disturbing activities. Additionally, during outreach conducted by Rincon to support the project's compliance with Section 106 of the Historic Preservation Act (Section 106), it was noted that Ms. Dutton had previously indicated to the Paso Robles Historical Society that the Heritage Ranch area was formerly a Salinan village site. Documentation associated with this outreach is summarized in the Historic Properties Inventory Report (Appendix C).

On October 24, 2023, HRCSD distributed updated AB 52 consultation letters for the proposed project to notify the nine Native American tribes provided with the original AB 52 consultation letters of the additional of the replacement effluent pipeline alignment to the project impact area.

The updated AB 52 consultation letters were sent, via email with read receipt requested, to the following tribal governments:

- Barbareño/Ventureño Band of Mission Indians
- Chumash Council of Bakersfield
- Northern Chumash Tribal Council
- Salinan Tribe of Monterey, San Luis Obispo Counties
- San Luis Obispo County Chumash Council
- Santa Ynez Band of Chumash Indians
- Tule River Indian Tribe
- Xolon-Salinan Tribe
- *yak tityu tityu yak tiłhini* – Northern Chumash Tribe

Under AB 52, Native American tribes have 30 days to respond and request further project information and formal consultation. ~~To date, no responses to the updated AB 52 consultation letters have been received.~~ On December 1, 2023, Ms. Patti Dutton, Tribal Administrator of the Salinan Tribe of Monterey, responded via email noting concerns that resources may be impacted by the proposed project and recommending a tribal monitor be present during all ground-disturbing activities.

The correspondence summarized above did not result in the identification of specific tribal cultural resources within the project site nor did any tribes request consultation. Accordingly, AB 52 consultation is complete for the project.

a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*

b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

No tribal cultural resources listed or eligible for listing in the CRHR or in a local register of historical resources were identified within the project site. In addition, the results of the SLF search did not indicate any known Native American resources near the project site, and no tribal cultural resources were identified within or near the project site that have been determined by HRCSD (the lead agency) to be significant. Furthermore, as stated in Section 2.5 (*Cultural Resources*), the archaeological survey did not identify cultural materials within the project site, and the survey confirmed the project site is highly disturbed due to past construction, maintenance, and operational activities of HRCSD such that the likelihood of encountering intact, potentially significant cultural deposits in the project site is low. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource as defined in PRC Section 21074 that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k) or that is a resource determined by HRCSD (the lead agency), in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC Section 5024.1(c). No impact would occur. Furthermore, in the event of an inadvertent discovery of cultural

resources, Mitigation Measure CR-1 (outlined in Section 2.5, *Cultural Resources*) would be implemented, which includes contacting a Native American representative to participate in the evaluation of the find if it is prehistoric.

NO IMPACT

2.19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	■
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple Dry years?	☐	☐	■	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	■
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	■	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Water

The project includes upgrades to existing wastewater treatment and conveyance facilities. The project would likely require the relocation of on-site domestic water lines within the wastewater treatment plant portion of the project site, the environmental effects of which have already been evaluated throughout this document. No additional environmental effects related to the

construction or relocation of new or expanded water facilities would occur beyond those analyzed herein.

Wastewater Treatment

The proposed project consists of upgrades to existing wastewater treatment and conveyance facilities, the environmental impacts of which are analyzed throughout this document. No additional environmental impacts associated with the construction or relocation of wastewater facilities would occur beyond those analyzed herein.

Stormwater Drainage

As discussed in Section 2.10, *Hydrology and Water Quality*, the project would result in a net decrease in impervious surfaces within the project site as compared to existing conditions due to the removal of the existing lined ponds and would not require the construction or new or expanded stormwater drainage facilities off-site. The project may require the relocation of on-site stormwater drainage facilities within the project site, the environmental effects of which have already been evaluated throughout this document. No additional environmental effects related to the construction or relocation of new or expanded stormwater drainage facilities would occur beyond those analyzed herein.

Electric Power

The project would likely require the relocation of on-site electrical lines within the wastewater treatment plant portion of the project site, the environmental effects of which have already been evaluated throughout this document. No additional environmental impacts associated with the construction or relocation of new or expanded electrical facilities would occur beyond those analyzed herein.

Natural Gas

The project would not involve any components requiring natural gas and would not involve the relocation of existing natural gas facilities. Therefore, no impact would occur.

Telecommunications

The project would not involve any components requiring new telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, no impact would occur.

Summary

In summary, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects beyond those already discussed in this document. No impact would occur.

NO IMPACT

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

The project involves upgrades to existing HRCSD wastewater treatment and conveyance facilities. Small quantities of water would be required during construction for dust suppression, which would be provided by HRCSD. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered. As described in Section 2.14, *Population and Housing*, the project would not result in a net increase in wastewater treatment capacity as compared to the existing capacity of the wastewater treatment facility and thus would not induce unplanned population growth that would increase demand for potable water supplies. In addition, any new water demand associated with the proposed office building at the wastewater treatment plant location would be minimal because the project would not result in a net increase in HRCSD employees. Therefore, impacts to water supplies would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

The project involves upgrades to existing HRCSD wastewater treatment and conveyance facilities to serve existing and planned growth. As described in Section 2.14, *Population and Housing*, the project would not result in a net increase in wastewater treatment capacity as compared to the existing capacity of HRCSD's wastewater treatment facility and thus would not induce unplanned population growth that would increase communitywide wastewater generation. Any new wastewater generation associated with the proposed office building at the wastewater treatment plant location would be minimal because the project would not result in a net increase in HRCSD employees. Therefore, the project would not result in a determination by the wastewater treatment that it has adequate capacity to serve the project's projected demand. No impact would occur.

NO IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Construction activities may temporarily generate solid waste, including soil spoils or other construction waste, which would be disposed of in accordance with all applicable federal, state, and local statutes and regulations. All soil is expected to be reused as backfill material within the project area. Other construction solid waste from activities such as demolition would be disposed of at the San Miguel Garbage Company located at 6625 Benton Road in Paso Robles. However, the San Miguel Garbage Company does not accept hazardous waste, which includes most paints, pesticides, and petroleum derivatives (San Miguel Garbage Company 2022).

Hazardous waste would be disposed of at the City of Paso Robles Landfill. The City of Paso Robles Landfill has 4,216,402 cubic yards of remaining capacity (California Department of Resources Recycling and Recovery [CalRecycle] 2017). Due to the temporary nature of construction and the minimal amount of construction waste anticipated to require disposal at this landfill, the project

would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at City of Paso Robles Landfill.

During operation the project would require disposal of biosolids. The maximum daily throughput for the City of Paso Robles Landfill is 450 tons per day, and the current average daily throughput is approximately 112 tons (CalRecycle 2017 and 2019). Therefore, the remaining available daily throughput capacity is approximately 338 tons. Approximately 20 cubic yards or less of biosolids would be transported by trucks from the project site to private composting facilities in Santa Barbara or Kern County for beneficial reuse or to a landfill for disposal each week. This volume of biosolids would equate to approximately 10 tons per week based on a conversion factor for commercial organics of 1,000 pounds per cubic yard (USEPA 2016a). Conservatively assuming biosolids are disposed of on one day each week, the project would increase daily disposal at the City of Paso Robles Landfill by 10 tons on one day per week, which would be within the available daily throughput capacity of approximately 338 tons. Alternatively, if processed at a composting facility, this material would be reused and would not affect landfill capacity. Therefore, waste generated by construction and operational activities would not exceed the available capacity at the landfill serving the project area that would accept debris generated by the project, and impacts would be less than significant.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (Assembly Bill 939). Once operational, any new solid waste generation associated with the proposed office building at the wastewater treatment plant location would be minimal because the project would not result in a net increase in HRCSD employees. Therefore, the project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. As a result, solid waste impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2.20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	■	☐	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	■
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	■

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

The project site and surrounding area is located within an SRA and is designated as a High Fire Hazard Severity Zone (CAL FIRE 2022). The project would be required to adhere to adopted emergency response plans for the area, including the Heritage Ranch Community Major Incident Response Plan and the San Luis Obispo County Emergency Operation Plan (CAL FIRE et al. 2013; County of San Luis Obispo 2017).

As discussed in Section 2.9, *Hazards and Hazardous Materials*, single-lane closures along Heritage Road and Gateway Drive would be required during construction of the replacement effluent pipeline. Additionally, temporary lane closures along Heritage Road may be required during construction due to large delivery and haul trucks entering and exiting the wastewater treatment plant site. Lane closures could slow traffic through the local area and thereby affect implementation

of emergency response and emergency evacuation plans. Therefore, impacts during construction activities would be potentially significant and implementation of Mitigation Measure HAZ-1 as described in Section 2.9, *Hazards and Hazardous Materials*, would be required to reduce impacts to a less-than-significant level.

The CAL FIRE/County Fire Station #33, is immediately adjacent to the wastewater treatment plant location and would be the location of the Incident Command Post from which fire and other emergency resources will operate (CAL FIRE et al. 2013). Access to the Incident Command Post would not be impeded by the proposed project. In the event of an emergency, HRCSD personnel would perform an inspection of the WRRF, pumping facilities, storage tanks, and distribution system to ensure system integrity. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan. No impact would occur.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

As described under item (a), the project is located in a High Fire Hazard Severity Zone in an SRA. The proposed project involves upgrades to wastewater treatment and conveyance facilities and includes construction of habitable structures such as office space for employees. The spray field location is surrounded by wildland fire vegetation such as chaparral. However, there are no residences in the vicinity of the spray field location. The WRRF is located in a more developed area but is surrounded by open grass land to the north, east, and west. The effluent pipeline would be located in a developed roadway. Open grassland is located immediately north of a 1,200-linear-foot portion of the replacement effluent pipeline alignment along Gateway Drive. The rest of the alignment is surrounded by residential land uses. The nearest residence is located within 50 feet of the project site.

During construction activities, the use of spark-producing construction machinery within or adjacent to areas of high fire hazard could potentially create hazardous fire conditions and expose construction workers and nearby residents to wildfire risks. However, pursuant to California Public Resources Code Section 4442, earthmoving and portable equipment with internal combustion engines would be equipped with a spark arrestor to reduce the potential for igniting a wildfire, which would minimize this risk. In addition, because wastewater treatment and conveyance facilities already exist within the project site, implementation of the proposed project would not further exacerbate fire risk in the area. The project would not include potential ignition sources, and chemicals stored on site, some of which may be flammable, would be contained in secondary containment structures with hazardous material business response plans developed and implemented in the event of an emergency. Therefore, the project would not exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The proposed project would not require the installation or maintenance of any infrastructure, such as roads or fuel breaks, that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment. No impact would occur.

NO IMPACT

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The proposed project involves wastewater treatment and conveyance facility upgrades that would not have the potential to expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. The project would not include potential ignition sources, and chemicals stored on site, some of which may be flammable, would be contained in secondary containment structures with hazardous material business response plans developed and implemented in the event of an emergency. As described in Section 2.10, *Hydrology and Water Quality*, drainage changes to the project site would be minimal and would not result in excess runoff that could result in post-fire flooding or landslides. As described in Section 2.7, *Geology and Soils,* the project is located in an area with a high potential of landslides. However, the project site is relatively flat, and the project would not result in increased risk of post-fire slope instability. Therefore, the project would not expose people or structures to flooding or landslides as a result of post-fire runoff, slope instability, or drainage changes. No impact would occur.

NO IMPACT

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2.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	■	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	■	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As discussed in Section 2.4, *Biological Resources*, the proposed project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal with the incorporation of Mitigation Measures BIO-1 through BIO-4. As discussed in Section 2.5, *Cultural Resources*, and Section 2.18, *Tribal Cultural Resources*,

the project would not have the potential to eliminate important examples of the major periods of California history or prehistory. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?

As described in Sections 2.1 through 2.20, the proposed project would not result in significant and unmitigable impacts to the environment with respect to all environmental issues. This is largely because project construction activities would be temporary, infrequent, and low-intensity, and project operation would not significantly alter the environmental baseline condition.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level.

There are no planned projects are in the vicinity of the project site (County of San Luis Obispo 2023). Therefore, the potential for the project to contribute to cumulative impacts would be limited to the following regional issues:

- **Air Quality.** The SCCAB is designated nonattainment for the one-hour and eight-hour CAAQS for ozone and the 24-hour and annual CAAQS for PM_{10}. In addition, eastern San Luis Obispo County is designated marginal nonattainment for the eight-hour ozone NAAQS. Therefore, cumulative air quality impacts currently exist for these pollutants. As discussed in the Section 2.3, *Air Quality*, project construction and operation would not generate emissions of this air pollutant exceeding San Luis Obispo County Air Pollution Control District significance thresholds, which are intended to assess whether a project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to cumulative air quality impacts would not be cumulatively considerable.
- **Biological Resources.** Most cumulative impacts to biological resources occur when a disproportionate number of development projects occur at once and regionally impact a local population of a special status species, riparian habitat, sensitive natural communities, wetlands, or other locally protected biological resources. If these cumulative projects would result in impacts to biological resources, impacts to such resources would be addressed on a case-by-case basis. It is anticipated that if these projects have the potential to result in significant impacts to biological resources, they would be required to implement similar mitigation measures as those required for the proposed project and would comply with all applicable laws and regulations governing biological resources. Nevertheless, the proposed project would be required to implement Mitigation Measures BIO-1 through BIO-4 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.
- **Cultural and Tribal Cultural Resources.** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. If these cumulative projects would result in impacts to known or unknown cultural or tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. It is

anticipated that if these projects have the potential to result in significant impacts to cultural or tribal cultural resources, they would be required to implement similar mitigation measures as those required for the proposed project and would comply with all applicable laws and regulations governing cultural resources. Therefore, cumulative impacts to cultural and tribal cultural resources would be less than significant. Nevertheless, the proposed project would be required to implement Mitigation Measures CR-1 to reduce its impacts to cultural resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

- **Greenhouse Gas Emissions.** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 2.8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 2.8, *Greenhouse Gas Emissions*, project emissions would be below the identified threshold of significance and would therefore not be cumulatively considerable.
- **Noise.** Overlapping construction activities associated with cumulative development projects in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive receivers located throughout the area, especially during construction activities. However, similar to the proposed project, cumulative development projects would be subject to compliance with the noise level limits established in San Luis Obispo County Code Chapter 23.06. In addition, there are currently no planned cumulative development projects in the project site vicinity. Therefore, no cumulative construction noise impact would occur.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As discussed in Section 2.3, *Air Quality*, the proposed project would not result in significant air quality impacts during construction or operation. As discussed in Section 2.9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the transportation of hazardous materials would minimize the potential for an accidental release of hazardous materials during construction, and the proposed project would not result in a net change in the use of hazardous materials during operation. As discussed in Section 2.13, *Noise*, the project would not generate substantial temporary or permanent increases in ambient noise levels in the vicinity of the project site. Therefore, the proposed project would not adversely affect human beings, directly or indirectly, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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3 Federal Cross-Cutting Environmental Regulations Evaluation

The proposed project may receive funding from USDA. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this document includes analysis pertinent to several federal cross-cutting regulations. The basic rules for complying with cross-cutting federal authorities under this program are set out in the USDA regulations in Title 7 CFR Part 1970.

This section describes the project's status of compliance with relevant federal laws, executive orders, and policies, and any consultation that has occurred to date or will occur in the near future. The topics are based in part on the USDA's "Exhibit B – Guide for Preparing Environmental Reports under § 1970.54 For Projects with a CEQA Document."

3.1 Federal Endangered Species Act

Section 7 of the federal Endangered Species Act requires federal agencies, in consultation with the Secretary of the Interior, to ensure their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7, a project that could result in incidental take of a listed threatened or endangered species must consult with the USFWS to obtain a Biological Opinion. If the Biological Opinion finds the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion. For the purpose of this project, the USDA would act as the federal lead or responsible agency.

As indicated in Appendix B, the project may affect but is not likely to adversely affect the federally Threatened California red-legged frog with the incorporation of Mitigation Measures BIO-1 through BIO-3 described in Section 2.4 *Biological Resources*. The project would have no effect to federally Threatened yellow-billed cuckoo and federally Threatened southwestern willow flycatcher because the project would not impact potentially suitable nesting habitat for these species and implementation of Mitigation Measure BIO-4 described in Section 2.4 *Biological Resources* would achieve avoidance of indirect impacts to active nests, if present adjacent to the project site (Appendix B). Thus, the project would not jeopardize listed species, and the lead agency would be in compliance with the federal Endangered Species Act.

3.2 National Historic Preservation Act, Section 106

The purpose of the National Historic Preservation Act (NHPA) is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Section 106 requires federal agencies to consider effects on historic properties. Section 106 review involves a step-by-step procedure detailed in the implementing regulations found in 36 CFR Part 800.

As discussed in Section 2.5, *Cultural Resources*, and the Historic Properties Inventory Report prepared for the project (Appendix C), there is one historic aged built environment property in the Area of Potential Effects, the HRCSD spray field, which dates to circa 1972 and consists of three sand

filters, a de-chlorination facility, and an outfall. However, the HRCSD spray field was recommended ineligible for listing in the National Register of Historic Places. It is therefore not considered a historic property under Section 106, and its alteration or demolition would not constitute an adverse effect to historic properties. In addition, the cultural resources records search, Sacred Lands File search, Phase I survey, and Native American outreach performed in support of Section 106 and AB 52 did not identify any historic properties, tribal cultural properties, or tribal cultural resources in the Area of Potential Effects or its vicinity. Therefore, as concluded in the HPIR, the project would result in no historic properties affected under Section 106 of NHPA (Losco et. al 2022).

3.3 Clean Air Act

The 1990 Amendment to FCAA Section 176 requires USEPA to promulgate rules to ensure federal actions conform to the appropriate State Implementation Plan. This rule, known as the General Conformity Rule (40 CFR Subpart W and 40 CFR Part 93 Subpart B: General Conformity), requires any federal agency responsible for an action in a federal nonattainment or maintenance area to demonstrate conformity with the applicable State Implementation Plan, by determining the action is either exempt from the General Conformity Rule requirements or subject to a formal General Conformity Determination. Actions would be exempt, and thus conform to the State Implementation Plan, if an applicability analysis shows that total direct and indirect project emissions of criteria pollutants for which the project area is designated nonattainment or maintenance would be less than specified emission thresholds, known as *de minimis* rates. If not exempt, an air quality conformity analysis would be required to determine conformity.

As outlined in the Federal Clean Air Act General Conformity Applicability Analysis included as Appendix A, the project site is located within the South Central Coast Air Basin, which is designated attainment or unclassified for all NAAQS. Therefore, no *de minimis* rates are applicable, and general conformity requirements do not apply to the project (Appendix A). A formal conformity determination is not required for the project, and the lead agency would be in compliance with the FCAA.

3.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, is designed to balance competing land and water issues in coastal zones. It also aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Within California, the CZMA is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the California Coastal Commission.

The proposed project is not located within the Coastal Zone. Therefore, the CZMA does not apply to the project.

3.5 Farmland Protection Policy Act

The Farmland Protection Policy Act requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The Farmland Protection Policy Act is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses.

It assures that, to the extent possible, federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland.

As described in Section 2.2, *Agriculture and Forestry Resources*, the project site is not currently in agricultural production; does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance; and is not subject to a Williamson Act contract (DOC 2016). Therefore, the proposed project would not adversely affect farmland areas, and the lead agency would be in compliance with the Farmland Protection Policy Act.

3.6 Executive Order 11988 – Floodplain Management

Executive Order (EO) 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains.

As described in Section 2.10, *Hydrology and Water Quality*, the project site is not located in a flood zone (FEMA 2012 and 2021). As such, the project would not interfere with floodplain management or expose people or structures to a significant risk of loss, injury or death involving flooding. The lead agency would therefore be in compliance with this EO.

3.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 (September 22, 2000) requires any project with federal involvement address impacts of federal actions on migratory birds.

As described in Section 2.4, *Biological Resources*, the proposed project would have a less-than-significant impact on nesting birds with implementation of Mitigation Measure BIO-4 if construction cannot be avoided during nesting season. Thus, the lead agency would be in compliance with this EO.

3.8 Executive Order 11990 – Protection of Wetlands

Under EO 11990 (May 24, 1977), federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

As described in Section 2.4, *Biological Resources*, the project site does not support federally protected wetlands as defined by CWA Section 404; therefore, no impacts would occur. Thus, the lead agency would be in compliance with EO 11990.

3.9 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value.

There are no designated Wild and Scenic Rivers within the project area, and no designated rivers would be adversely affected by the proposed project (National Park Service 2022). As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

3.10 Safe Drinking Water Act – Source Water Protection

Section 1424(e) of the Safe Drinking Water Act established the USEPA's Sole Source Aquifer Program. This program protects communities from groundwater contamination from federally-funded projects.

Within USEPA's Region 9, which includes California, there are nine sole source aquifers. None of these sole source aquifers are located within the project area (USEPA 2022c). Therefore, the Sole Source Aquifer Program does not apply to the proposed project, and the lead agency would be in compliance with Section 1424(e) of the Safe Drinking Water Act.

3.11 Executive Order on Trails for America in the 21st Century

The EO on Trails for America (January 18, 2001) requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. No trails exist in the vicinity of the project site (County of San Luis Obispo Parks & Recreation 2022). As a result, no adverse effects on trails would occur, and the lead agency would be in compliance with this EO.

3.12 Executive Order 13007 – Indian Sacred Sites

Sacred sites are defined in Executive Order 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The proposed project would not be located on or impact any federal lands and therefore would not affect any Native American sacred sites protected under this EO. As a result, the lead agency would be in compliance with this EO.

3.13 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the United States Exclusive Economic Zone. It establishes exclusive United States management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat, as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

The proposed project would not be located in or impact any United States federal waters regulated under the Magnuson-Stevens Act. Essential Fish Habitat includes those habitats that support the

different life stages of each managed species. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions. Essential Fish Habitat can consist of both the water column and the underlying surface (e.g., streambed) of a particular area. The project area is located within existing developed areas. As described in Section 2.4, *Biological Resources*, the project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area. As a result, the lead agency would be in compliance with this Act.

3.14 Environmental Justice

The USEPA defines environmental justice as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (USEPA 2016b). This section describes existing socioeconomic conditions in the project area and the regulatory setting pertaining to environmental justice-related issues. This section also evaluates the potential for the proposed project to disproportionately affect minority or low-income groups.

Minority, Low-Income, and Disadvantaged Communities

According to USEPA guidelines, a minority population is present in a study area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The project site is located in the census-designated place of Lake Nacimiento in unincorporated San Luis Obispo County. Demographics for Lake Nacimiento, as provided in the U.S. Census's American Community Survey (ACS) 5-Year Estimates indicate the local population is comprised of approximately 19.2 percent minority populations (U.S. Census 2020).[10] Therefore, the area surrounding the project site does not have a minority population exceeding 50 percent.

USEPA guidelines recommend that analyses of low-income communities consider the U.S. Census' poverty level definitions as well as applicable state and regional definitions of low-income and poverty communities. According to the U.S. Census, approximately 8.1 percent of the population of Lake Nacimiento is at or below the poverty level as of 2021 (U.S. Census 2021). For California as a whole, the percentage of persons in poverty is 12.2 percent as of 2021 (U.S. Census 2021). As a result, the community of Lake Nacimiento has a poverty rate that is below the state average and is therefore not considered a low-income community.

A Disadvantaged Community (DAC) is defined as a community with a median household income (MHI) less than 80 percent of the California MHI (Public Resource Code Section 75005[g]). According to ACS data, the statewide MHI was $91,551 in 2022 (U.S. Census 2021). A DAC would therefore be a community with an MHI of $73,241 or less. In 2021, the MHI for Lake Nacimiento was $74,430 (U.S. Census 2021). Therefore, Lake Nacimiento is not a DAC.

[10] The project site is located in the Heritage Ranch development. However, population data is only available for Lake Nacimiento, which is a census-designated place that encompasses Heritage Ranch. Therefore, data for Lake Nacimiento was used for this analysis.

Conclusion

For the purposes of this analysis, an impact related to environmental justice would be significant if the proposed project would cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively. Because Lake Nacimiento does not have a minority population exceeding 50 percent, has a poverty rate below the state average, and has an MHI greater than 80 percent of the California MHI, it is not considered a minority or low-income community and is not subject to an environmental justice analysis. The proposed project would therefore not result in any disproportionately high impacts on minority or low-income communities. Thus, no adverse environmental justice impacts would occur.

3.15 Environmental Risk Management

Neither a Phase I or II Environmental Site Assessment nor a Transaction Screen Questionnaire has been prepared for the project site. The project does not involve real estate security being taken; therefore, the project is not required by USDA to prepare a Phase I Environmental Site Assessment.

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4.2 List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to HRCSD. Persons involved in data gathering analysis, project management, and quality control are listed below.

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Appendix A

Federal Clean Air Act General Conformity Applicability Analysis

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November 3, 2023
Project No: 21-11535

Scott Duffield, P.E., General Manager
Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446

Subject: Heritage Ranch Water Resource Recovery Facility Project Federal Clean Air Act General Conformity Applicability Analysis, San Luis Obispo County, California

Dear Mr. Duffield:

On behalf of Heritage Ranch Community Services District (HRCSD), Rincon Consultants, Inc. has prepared this Federal Clean Air Act General Conformity Applicability Analysis for the Heritage Ranch Water Resource Recovery Facility Project (proposed action or project). HRCSD may pursue federal funding opportunities for the proposed action, including funding from the United States Department of Agriculture. The federal Clean Air Act (CAA) requires any federal agency taking an action, including funding an action, must make a determination that its action would not conflict with a State Implementation Plan (SIP). As part of the implementation of the CAA, the United States Environmental Protection Agency (USEPA) has developed rules for transportation projects and non-transportation projects. The rule applicable to the proposed action is referred to as the "General Conformity Rule." Therefore, the purpose of this letter is to evaluate the proposed action's conformity to the applicable SIP and consistency with the CAA General Conformity Rule.

Description of Proposed Action

The proposed action includes upgrades to the existing HRCSD wastewater treatment plant and spray field to comply with Waste Discharge Order No. R3-2017-0026. The overall pipeline alignment corridors for influent and effluent from the existing HRCSD wastewater treatment plant location would remain unchanged from existing conditions except for minor modifications at the existing spray field. The proposed action is intended to bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed action would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity).

Water Resource Recovery Facility

The proposed action would include modification and demolition of the existing HRCSD wastewater treatment plant elements and construction of new Water Resource Recovery Facility (WRRF) elements with an average annual daily flow capacity of approximately 0.29 million gallons per day. The WRRF would produce secondary treated effluent, a portion of which may be re-used in on-site processes. In addition to treatment process infrastructure, the WRRF would include supporting facilities necessary to

operate, maintain, secure, and preserve the site. These supporting facilities would consist of an approximately 1,200-square-foot (sf) office space to provide administrative support; an approximately 500- to 750-sf standby power generation enclosure for emergency backup power supply; an approximately 800-sf electrical building to house electrical and control equipment; and safety and spill prevention structures. A 350-kilowatt diesel backup generator (similar or equivalent to a CAT D350 GC generator) would be installed for use during power outages and other emergency situations. Heating, ventilation, and air conditioning equipment would be installed at the proposed office and electrical buildings as well as any other enclosed spaces. In addition, an approximately 2,800-linear-foot effluent pipeline would be installed to replace the existing aging effluent pipeline that does not meet current design pressure requirements.

Construction

Construction of the proposed action would occur over an approximately three-year period between approximately June 2024 and August 2027. Construction activities would typically occur Monday through Friday from 8:00 a.m. to 5:00 p.m. and would consist of demolition, site preparation, grading, building construction, infrastructure installation, paving, site restoration, and architectural coating. The proposed action would require demolition of the existing chlorine chemical storage structure, storage shed, fuel tanks shed, and effluent pump station. Approximately one to two truck trips per week would occur during construction to export debris to the San Miguel Garbage Company located at 6625 Benton Road in Paso Robles. In addition, some vegetation and tree removal would be required to accommodate the proposed WRRF. On-site utilities such as electrical, sewer, and water lines would likely be demolished or relocated within the project site. Approximately 5,025 cubic yards of soil would be excavated and used on site as fill material. In addition, approximately 140 cubic yards of soil material would be exported, and approximately 140 cubic yards of fill material would be imported.

Operation

Operation and maintenance activities for the proposed action would include daily staff visits to the WRRF, which would represent a slight increase from the current maintenance regime. In addition, approximately four to five additional vehicles would visit the project site each month for purposes such as chemical deliveries, and biosolids produced by the treatment process would be removed from the project site by truck approximately one to two times per week. Operations and maintenance staff would visit the replacement effluent pipeline periodically, but this would not represent an increase as compared to maintenance activities required for the existing effluent pipeline. Total electricity consumption on site would be approximately 745 megawatt-hours per year, which would represent an increase of approximately 253 megawatt-hours per year as compared to existing conditions. The backup generator would be tested upon initial start-up and on a monthly basis thereafter with each testing event lasting for approximately two to four hours.

Existing Conditions

The project site is located in the South Central Coast Air Basin (SCCAB), which includes San Luis Obispo County, Santa Barbara County, and Ventura County. The San Luis Obispo County Air Pollution Control District (SLOAPCD) is responsible for local control and monitoring of criteria pollutants within the San

Luis Obispo County portion of the SCCAB.[1] Eastern San Luis Obispo County is designated marginal nonattainment for the eight-hour National Ambient Air Quality Standards (NAAQS) for ozone. However, the project site is located in the western portion of the county that is designated attainment for this federal standard (SLO County APCD 2021).[2, 3]

Regulatory Framework

Section 176(c) of the CAA, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits federal agencies from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. As codified in Title 40 Code of Federal Regulations (CFR) Part 51 Subpart W and 40 CFR Part 93 Subpart B: General Conformity, the FCAA requires federal agencies to ensure that actions taken by those agencies conform to the applicable SIP. The FCAA applies only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to NAAQS. These regulations require an applicability analysis to determine whether the federal action must be supported by a conformity determination. Under the General Conformity Rule, the FCAA applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

a. An area that is in nonattainment (i.e., has recorded violations of the NAAQS) for each criteria pollutant (such as ozone, carbon monoxide, and particulate matter) for which the area is designated nonattainment
b. An area designated as nonattainment that was later re-designated by the Administrator of the USEPA as an attainment area and that is therefore required to develop a maintenance plan under 42 U.S.C. Section 7505a with respect to the specific pollutant(s) for which the area was previously designated nonattainment

The applicability analysis involves calculation of the total emissions of criteria or precursor pollutants during the years of construction and operation of the federal action. If annual emissions exceed the *de minimis* rates outlined in the General Conformity Rule specified in 40 CFR Part 93.153(b), then the federal agency must prepare a formal General Conformity Determination for public comment. If the proposed action's annual emissions are below the applicable *de minimis* rates, the proposed action conforms to the SIP and is not subject to a formal general conformity determination. As discussed under *Existing Conditions*, only eastern San Luis Obispo County is designated marginal nonattainment for the eight-hour NAAQS for ozone. The project site is located in the western portion of the county that is designated attainment for this federal standard; therefore, no *de minimis* rates are applicable to the proposed action.

[1] United States Environmental Protection Agency. 2022. Nonattainment Areas for Criteria Pollutants (Green Book). Last modified: April 29, 2022. https://www.epa.gov/green-book (accessed May 2022).
[2] The eastern portion of San Luis Obispo County designated nonattainment for the federal 8-hour ozone standard consists of the region east of the -120.4 degree longitude line in areas of San Luis Obispo County that are south of the 35.45 degree latitude line and the region east of the -120.3 degree longitude line in areas of San Luis Obispo County that are north of the 35.45 degree latitude line.
[3] San Luis Obispo County Air Pollution Control District. 2021. 2021 Ambient Air Monitoring Network Plan. June 2021. https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/2021-network-plan-for-publication.pdf (accessed October 2022).

Methodology

Air pollutant emissions generated by construction and operation of the proposed action were estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1.1.19 CalEEMod uses project-specific information, including the project's land uses, construction parameters, and operational characteristics, to model a project's construction and operational emissions. The analysis reflects construction and operation of the proposed action as described under *Description of Proposed Action*. Detailed modeling assumptions and results can be found in Appendix 1.

Construction emissions modeled include emissions generated by construction equipment used on site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed action was analyzed based on the construction schedule and construction equipment list provided by the project's engineering and design team. It is assumed all construction equipment would be diesel-powered. Operational emissions modeled include mobile source emissions (i.e., vehicle emissions), area source emissions, and stationary source emissions. Mobile source emissions are generated by vehicle trips to and from the project site.[4] Operation of the project would include daily maintenance visits, periodic deliveries four to five times a month, and two weekly biosolids disposal trips, which would be an increase as compared to current visitation to the site. Area source emissions are generated by landscape maintenance equipment, consumer products and architectural coatings. Stationary source emissions would be generated by the emergency diesel backup generator, which would operate for up to approximately four hours during each monthly testing event.

General Conformity Applicability Analysis

The proposed action may receive funding from the United States Department of Agriculture; therefore, emissions associated with the proposed action are subject to CAA requirements under the General Conformity Rule. Table 1 presents the total annual emissions associated with the proposed action that may be generated during each year of construction and operation. As detailed earlier, the portion of San Luis Obispo County in which the project site is located is designated attainment for all NAAQS; therefore, no *de minimis* rates are applicable to the proposed action. As such, general conformity requirements do not apply, and the proposed action is exempt from a General Conformity Determination.

[4] Operation of the proposed project would require a net increase of approximately 253 megawatt-hours of electricity per year; however, CalEEMod only calculates direct emissions of criteria pollutants from energy sources that combust on site, such as natural gas used in a building. The project does not include natural gas connections. CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the USEPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

Table 1 Proposed Action Annual Emissions

Phase	Estimated Annual Emissions (tons/year)					
	VOC	NO_x	NO_2[1]	CO	PM_{10}	$PM_{2.5}$
Construction (2024)	0.4	3.3	3.3	3.2	1.2	0.7
Construction (2025)	0.6	4.9	4.9	5.9	0.2	0.2
Construction (2026)	0.7	5.1	5.1	6.3	0.3	0.2
Construction (2027)	0.5	3.5	3.5	4.2	0.2	0.1
Operation (2027)	< 0.1	0.1	0.1	< 0.1	< 0.1	< 0.1
De Minimis Emission Rate	N/A	N/A	N/A	N/A	N/A	N/A
Exceeds Rates?	N/A	N/A	N/A	N/A	N/A	N/A

VOC = volatile organic compounds; NO_x = nitrogen oxides; NO_2 = nitrogen dioxide; CO = carbon monoxide; PM_{10} = particulate matter measuring 10 microns or less in diameter; $PM_{2.5}$ = particulate matter measuring 2.5 microns or less in diameter

[1] For the purposes of this analysis, NO_x emissions were conservatively considered to be equivalent to NO_2 emissions. However, NO_2 emissions only constitute a fraction of NO_x emissions.

See Attachment 1 for CalEEMod results and other calculations.

Please feel free to contact us with any questions.

Sincerely,
Rincon Consultants, Inc.

Annaliese Torres
Senior Environmental Planner

Jennifer Haddow, PhD
Principal Environmental Scientist

Attachment

Attachment 1 Air Quality Modeling

Attachment 1

Air Quality Modeling

HRCSD WRRF Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	HRCSD WRRF
Construction Start Date	7/1/2024
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.00
Precipitation (days)	0.20
Location	4870 Heritage Rd, Paso Robles, CA 93446, USA
County	San Luis Obispo
City	Unincorporated
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3303
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.20

1.2. Land Use Types

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

General Office Building	2.75	1000sqft	3.70	2,750	0.00	—	—	—
User Defined Linear	0.53	Mile	0.13	0.00	—	—	—	—
Other Non-Asphalt Surfaces	3.40	Acre	3.40	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Water	W-4	Require Low-Flow Water Fixtures
Water	W-5	Design Water-Efficient Landscapes

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.31	55.5	60.3	0.13	2.27	14.5	16.7	2.09	6.92	9.01	—	14,296	14,296	0.60	0.26	5.21	14,394
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.49	81.8	80.0	0.16	3.42	27.7	31.1	3.15	13.7	16.8	—	17,091	17,091	0.71	0.23	0.11	17,156
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.77	28.1	34.7	0.08	0.89	5.85	6.60	0.82	2.87	3.57	—	8,890	8,890	0.36	0.15	1.10	8,946
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.69	5.13	6.33	0.02	0.16	1.07	1.20	0.15	0.52	0.65	—	1,472	1,472	0.06	0.03	0.18	1,481

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.63	55.5	56.3	0.12	2.27	14.5	16.7	2.09	6.92	9.01	—	13,224	13,224	0.54	0.12	1.45	13,274
2025	6.48	48.4	60.3	0.13	1.63	0.93	2.56	1.50	0.23	1.72	—	14,296	14,296	0.60	0.26	5.21	14,394
2026	5.29	39.3	48.7	0.12	1.25	0.63	1.88	1.15	0.16	1.31	—	12,463	12,463	0.50	0.22	3.48	12,543
2027	7.31	40.1	50.8	0.12	1.42	0.70	1.90	1.31	0.17	1.38	—	12,895	12,895	0.51	0.22	3.47	12,976
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	9.49	81.8	80.0	0.16	3.42	27.7	31.1	3.15	13.7	16.8	—	17,091	17,091	0.71	0.16	0.06	17,156
2025	5.80	43.6	52.8	0.12	1.47	0.72	2.20	1.36	0.18	1.53	—	13,052	13,052	0.53	0.23	0.11	13,133
2026	5.28	39.4	48.6	0.12	1.25	0.63	1.88	1.15	0.16	1.31	—	12,444	12,444	0.50	0.22	0.09	12,521
2027	7.31	40.2	50.7	0.12	1.19	0.70	1.90	1.10	0.17	1.27	—	12,873	12,873	0.52	0.22	0.09	12,952
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.11	18.1	17.8	0.04	0.75	5.85	6.60	0.69	2.87	3.57	—	3,877	3,877	0.16	0.04	0.20	3,892
2025	3.53	26.6	32.2	0.07	0.89	0.44	1.33	0.82	0.11	0.93	—	7,914	7,914	0.32	0.14	1.10	7,965
2026	3.77	28.1	34.7	0.08	0.89	0.45	1.34	0.82	0.11	0.93	—	8,890	8,890	0.36	0.15	1.08	8,946
2027	2.73	19.1	22.9	0.05	0.67	0.22	0.88	0.61	0.05	0.67	—	5,430	5,430	0.22	0.07	0.44	5,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	3.30	3.24	0.01	0.14	1.07	1.20	0.13	0.52	0.65	—	642	642	0.03	0.01	0.03	644
2025	0.64	4.85	5.88	0.01	0.16	0.08	0.24	0.15	0.02	0.17	—	1,310	1,310	0.05	0.02	0.18	1,319
2026	0.69	5.13	6.33	0.02	0.16	0.08	0.25	0.15	0.02	0.17	—	1,472	1,472	0.06	0.03	0.18	1,481

2027	0.50	3.49	4.18	0.01	0.12	0.04	0.16	0.11	0.01	0.12	—	899	899	0.04	0.01	0.07	904

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	6.63	55.5	56.3	0.12	2.27	14.5	16.7	2.09	6.92	9.01	—	13,224	13,224	0.54	0.12	1.45	13,274
2025	6.48	48.4	60.3	0.13	1.63	0.93	2.56	1.50	0.23	1.72	—	14,296	14,296	0.60	0.26	5.21	14,394
2026	5.29	39.3	48.7	0.12	1.25	0.63	1.88	1.15	0.16	1.31	—	12,463	12,463	0.50	0.22	3.48	12,543
2027	7.31	40.1	50.8	0.12	1.42	0.70	1.90	1.31	0.17	1.38	—	12,895	12,895	0.51	0.22	3.47	12,976
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	9.49	81.8	80.0	0.16	3.42	27.7	31.1	3.15	13.7	16.8	—	17,091	17,091	0.71	0.16	0.06	17,156
2025	5.80	43.6	52.8	0.12	1.47	0.72	2.20	1.36	0.18	1.53	—	13,052	13,052	0.53	0.23	0.11	13,133
2026	5.28	39.4	48.6	0.12	1.25	0.63	1.88	1.15	0.16	1.31	—	12,444	12,444	0.50	0.22	0.09	12,521
2027	7.31	40.2	50.7	0.12	1.19	0.70	1.90	1.10	0.17	1.27	—	12,873	12,873	0.52	0.22	0.09	12,952
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	2.11	18.1	17.8	0.04	0.75	5.85	6.60	0.69	2.87	3.57	—	3,877	3,877	0.16	0.04	0.20	3,892
2025	3.53	26.6	32.2	0.07	0.89	0.44	1.33	0.82	0.11	0.93	—	7,914	7,914	0.32	0.14	1.10	7,965
2026	3.77	28.1	34.7	0.08	0.89	0.45	1.34	0.82	0.11	0.93	—	8,890	8,890	0.36	0.15	1.08	8,946
2027	2.73	19.1	22.9	0.05	0.67	0.22	0.88	0.61	0.05	0.67	—	5,430	5,430	0.22	0.07	0.44	5,458
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.38	3.30	3.24	0.01	0.14	1.07	1.20	0.13	0.52	0.65	—	642	642	0.03	0.01	0.03	644
2025	0.64	4.85	5.88	0.01	0.16	0.08	0.24	0.15	0.02	0.17	—	1,310	1,310	0.05	0.02	0.18	1,319
2026	0.69	5.13	6.33	0.02	0.16	0.08	0.25	0.15	0.02	0.17	—	1,472	1,472	0.06	0.03	0.18	1,481

2027	0.50	3.49	4.18	0.01	0.12	0.04	0.16	0.11	0.01	0.12	—	899	899	0.04	0.01	0.07	904

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09	10.1	11.5	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.31	1,745	1,748	0.30	0.02	0.01	1,760
Mit.	1.09	10.1	11.5	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.23	1,745	1,748	0.30	0.02	0.01	1,760
% Reduced	—	—	—	—	—	—	—	—	—	—	4%	< 0.5%	< 0.5%	3%	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.07	10.1	11.4	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.31	1,745	1,747	0.30	0.02	0.01	1,760
Mit.	1.07	10.1	11.4	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.23	1,745	1,747	0.30	0.02	0.01	1,759
% Reduced	—	—	—	—	—	—	—	—	—	—	4%	< 0.5%	< 0.5%	3%	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.15	0.33	0.48	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	2.31	59.6	61.9	0.24	< 0.005	0.01	68.6
Mit.	0.15	0.33	0.48	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	2.23	59.4	61.7	0.23	< 0.005	0.01	68.1
% Reduced	—	—	—	—	—	—	—	—	—	—	4%	< 0.5%	< 0.5%	4%	—	—	1%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.03	0.06	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.38	9.86	10.2	0.04	< 0.005	< 0.005	11.4
Mit.	0.03	0.06	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.37	9.84	10.2	0.04	< 0.005	< 0.005	11.3

% Reduced	—	—	—	—	—	—	—	—	—	—	4%	< 0.5%	< 0.5%	4%	7%	—	1%

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Area	0.12	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Off-Road	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	1.09	10.1	11.5	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.31	1,745	1,748	0.30	0.02	0.01	1,760
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.32
Area	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Off-Road	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	1.07	10.1	11.4	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.31	1,745	1,747	0.30	0.02	0.01	1,760

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Area	0.12	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Off-Road	0.03	0.33	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Total	0.15	0.33	0.48	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	2.31	59.6	61.9	0.24	< 0.005	0.01	68.6
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05
Area	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.16	0.24	0.40	0.02	< 0.005	—	0.91
Waste	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Off-Road	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Total	0.03	0.06	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.38	9.86	10.2	0.04	< 0.005	< 0.005	11.4

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.33	0.33	< 0.005	< 0.005	< 0.005	0.34
Area	0.12	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49

Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01	
Off-Road	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	1.09	10.1	11.5	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.23	1,745	1,748	0.30	0.02	0.01	1,760
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.32
Area	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01	
Off-Road	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	1.07	10.1	11.4	0.02	0.20	< 0.005	0.20	0.19	< 0.005	0.19	2.23	1,745	1,747	0.30	0.02	0.01	1,759
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.32	0.32	< 0.005	< 0.005	< 0.005	0.33
Area	0.12	< 0.005	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.44	0.44	< 0.005	< 0.005	—	0.45
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Waste	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01	
Off-Road	0.03	0.33	0.37	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.3	57.3	< 0.005	< 0.005	—	57.5
Total	0.15	0.33	0.48	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	2.23	59.4	61.7	0.23	< 0.005	0.01	68.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.05	0.05	< 0.005	< 0.005	< 0.005	0.05

Area	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	0.14	0.22	0.36	0.01	< 0.005	—	0.83
Waste	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Off-Road	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Total	0.03	0.06	0.09	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.37	9.84	10.2	0.04	< 0.005	< 0.005	11.3

3. Construction Emissions Details

3.1. Linear, Pavement Cutting & Site Prep (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.39	3.36	< 0.005	0.10	—	0.10	0.09	—	0.09	—	498	498	0.02	< 0.005	—	500
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.39	3.36	< 0.005	0.10	—	0.10	0.09	—	0.09	—	498	498	0.02	< 0.005	—	500

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.41	0.58	< 0.005	0.02	—	0.02	0.02	—	0.02	—	85.9	85.9	< 0.005	< 0.005	—	86.2
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.51	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.5	93.5	< 0.005	< 0.005	0.01	94.9
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.2	16.2	< 0.005	< 0.005	0.03	16.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 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	0.00	0.00	0.00	0.00	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

3.2. Linear, Pavement Cutting & Site Prep (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	2.39	3.36	< 0.005	0.10	—	0.10	0.09	—	0.09	—	498	498	0.02	< 0.005	—	500
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.30	2.39	3.36	< 0.005	0.10	—	0.10	0.09	—	0.09	—	498	498	0.02	< 0.005	—	500
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.41	0.58	< 0.005	0.02	—	0.02	0.02	—	0.02	—	85.9	85.9	< 0.005	< 0.005	—	86.2
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.3
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.51	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	93.5	93.5	< 0.005	< 0.005	0.01	94.9
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.2	16.2	< 0.005	< 0.005	0.03	16.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 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	0.00	0.00	0.00	0.00	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

3.3. Linear, Pipeline Installation (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.81	4.21	0.01	0.08	—	0.08	0.07	—	0.07	—	641	641	0.03	0.01	—	644
Dust From Material Movement	—	—	—	—	—	< 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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.34	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	77.3	77.3	< 0.005	< 0.005	—	77.6
Dust From Material Movement	—	—	—	—	—	< 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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.9	44.9	< 0.005	0.01	0.12	47.1
Hauling	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	58.1	58.1	< 0.005	0.01	0.11	61.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	< 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	5.67
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.01	7.01	< 0.005	< 0.005	0.01	7.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.16	1.16	< 0.005	< 0.005	< 0.005	1.22

3.4. Linear, Pipeline Installation (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	2.81	4.21	0.01	0.08	—	0.08	0.07	—	0.07	—	641	641	0.03	0.01	—	644
Dust From Material Movement	—	—	—	—	—	< 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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.34	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	77.3	77.3	< 0.005	< 0.005	—	77.6

Dust From Material Movement	—	—	—	—	—	< 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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.8	12.8	< 0.005	< 0.005	—	12.8
Dust From Material Movement	—	—	—	—	—	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	44.9	44.9	< 0.005	0.01	0.12	47.1
Hauling	< 0.005	0.08	0.03	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	—	58.1	58.1	< 0.005	0.01	0.11	61.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
Vendor	< 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	5.67
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.01	7.01	< 0.005	< 0.005	0.01	7.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94

Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.16	1.16	< 0.005	< 0.005	< 0.005	1.22

3.5. Linear, Paving (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	3.37	4.50	0.01	0.15	—	0.15	0.14	—	0.14	—	638	638	0.03	0.01	—	640
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.40	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	75.2	75.2	< 0.005	< 0.005	—	75.4
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.4	12.4	< 0.005	< 0.005	—	12.5
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4

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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.87
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
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

3.6. Linear, Paving (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	3.37	4.50	0.01	0.15	—	0.15	0.14	—	0.14	—	638	638	0.03	0.01	—	640
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.05	0.40	0.53	< 0.005	0.02	—	0.02	0.02	—	0.02	—	75.2	75.2	< 0.005	< 0.005	—	75.4
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.4	12.4	< 0.005	< 0.005	—	12.5
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.1	11.1	< 0.005	< 0.005	0.02	11.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.84	1.84	< 0.005	< 0.005	< 0.005	1.87
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
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

3.7. Linear, Trenching (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.02	< 0.005	0.03	—	0.03	0.02	—	0.02	—	142	142	0.01	< 0.005	—	142
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.1	17.1	< 0.005	< 0.005	—	17.1
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.83	2.83	< 0.005	< 0.005	—	2.84
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
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
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

3.8. Linear, Trenching (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.83	1.02	< 0.005	0.03	—	0.03	0.02	—	0.02	—	142	142	0.01	< 0.005	—	142
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.1	17.1	< 0.005	< 0.005	—	17.1

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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.83	2.83	< 0.005	< 0.005	—	2.84
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.52	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	97.5	97.5	0.01	< 0.005	0.41	99.4
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.3	11.3	< 0.005	< 0.005	0.02	11.5
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.88	1.88	< 0.005	< 0.005	< 0.005	1.91
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
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

3.9. Demolition (2025) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	5.49	7.36	0.01	0.19	—	0.19	0.18	—	0.18	—	1,060	1,060	0.04	0.01	—	1,063
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	5.49	7.36	0.01	0.19	—	0.19	0.18	—	0.18	—	1,060	1,060	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.92	5.26	0.01	0.14	—	0.14	0.13	—	0.13	—	757	757	0.03	0.01	—	760
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.72	0.96	< 0.005	0.03	—	0.03	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.49	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.4	91.4	0.01	< 0.005	0.38	93.2
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.48	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.6	87.6	< 0.005	< 0.005	0.01	88.9
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.83
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.0	63.0	< 0.005	< 0.005	0.12	64.1
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.60
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.6
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10

3.10. Demolition (2025) - Mitigated

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

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

Off-Road Equipment	0.68	5.49	7.36	0.01	0.19	—	0.19	0.18	—	0.18	—	1,060	1,060	0.04	0.01	—	1,063
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.68	5.49	7.36	0.01	0.19	—	0.19	0.18	—	0.18	—	1,060	1,060	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.92	5.26	0.01	0.14	—	0.14	0.13	—	0.13	—	757	757	0.03	0.01	—	760
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.72	0.96	< 0.005	0.03	—	0.03	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.04	0.49	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	91.4	91.4	0.01	< 0.005	0.38	93.2
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.83
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.48	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	87.6	87.6	< 0.005	< 0.005	0.01	88.9
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.83
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.34	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	63.0	63.0	< 0.005	< 0.005	0.12	64.1
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.60
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.02	10.6
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10

3.11. Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	5.28	7.34	0.01	0.17	—	0.17	0.15	—	0.15	—	1,059	1,059	0.04	0.01	—	1,063
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	5.28	7.34	0.01	0.17	—	0.17	0.15	—	0.15	—	1,059	1,059	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	3.77	5.24	0.01	0.12	—	0.12	0.11	—	0.11	—	757	757	0.03	0.01	—	759
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.69	0.96	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.35	91.4
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	86.1	86.1	< 0.005	< 0.005	0.01	87.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.9	61.9	< 0.005	< 0.005	0.11	62.9
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10

3.12. Demolition (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	5.28	7.34	0.01	0.17	—	0.17	0.15	—	0.15	—	1,059	1,059	0.04	0.01	—	1,063
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.64	5.28	7.34	0.01	0.17	—	0.17	0.15	—	0.15	—	1,059	1,059	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.46	3.77	5.24	0.01	0.12	—	0.12	0.11	—	0.11	—	757	757	0.03	0.01	—	759
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.69	0.96	< 0.005	0.02	—	0.02	0.02	—	0.02	—	125	125	0.01	< 0.005	—	126
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.46	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	89.8	89.8	< 0.005	< 0.005	0.35	91.4
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.45	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	86.1	86.1	< 0.005	< 0.005	0.01	87.3
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.78	0.78	< 0.005	< 0.005	< 0.005	0.82
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.32	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	61.9	61.9	< 0.005	< 0.005	0.11	62.9
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.2	10.2	< 0.005	< 0.005	0.02	10.4
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10

3.13. Demolition (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.13	7.33	0.01	0.15	—	0.15	0.13	—	0.13	—	1,059	1,059	0.04	0.01	—	1,063
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.13	7.33	0.01	0.15	—	0.15	0.13	—	0.13	—	1,059	1,059	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	1.82	2.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	375	375	0.02	< 0.005	—	377
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.33	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	62.1	62.1	< 0.005	< 0.005	—	62.3
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.03	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.2	88.2	< 0.005	< 0.005	0.33	89.7
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.42	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	84.5	84.5	< 0.005	< 0.005	0.01	85.8
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.1	30.1	< 0.005	< 0.005	0.05	30.6
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.99	4.99	< 0.005	< 0.005	0.01	5.07
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
Hauling	< 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	0.05

3.14. Demolition (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.13	7.33	0.01	0.15	—	0.15	0.13	—	0.13	—	1,059	1,059	0.04	0.01	—	1,063
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.62	5.13	7.33	0.01	0.15	—	0.15	0.13	—	0.13	—	1,059	1,059	0.04	0.01	—	1,063
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	1.82	2.60	< 0.005	0.05	—	0.05	0.05	—	0.05	—	375	375	0.02	< 0.005	—	377
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.33	0.47	< 0.005	0.01	—	0.01	0.01	—	0.01	—	62.1	62.1	< 0.005	< 0.005	—	62.3
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.03	0.43	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	88.2	88.2	< 0.005	< 0.005	0.33	89.7
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.04	0.42	0.00	0.00	0.09	0.09	0.00	0.02	0.02	—	84.5	84.5	< 0.005	< 0.005	0.01	85.8
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.80
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	30.1	30.1	< 0.005	< 0.005	0.05	30.6
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
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.27	0.27	< 0.005	< 0.005	< 0.005	0.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	4.99	4.99	< 0.005	< 0.005	0.01	5.07
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
Hauling	< 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	0.05

3.15. Site Preparation (2024) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.41	55.4	54.5	0.12	2.27	—	2.27	2.09	—	2.09	—	12,898	12,898	0.52	0.10	—	12,942
Dust From Material Movement	—	—	—	—	—	14.2	14.2	—	6.85	6.85	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.41	55.4	54.5	0.12	2.27	—	2.27	2.09	—	2.09	—	12,898	12,898	0.52	0.10	—	12,942
Dust From Material Movement	—	—	—	—	—	14.2	14.2	—	6.85	6.85	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.55	13.4	13.1	0.03	0.55	—	0.55	0.50	—	0.50	—	3,110	3,110	0.13	0.03	—	3,120
Dust From Material Movement	—	—	—	—	—	3.42	3.42	—	1.65	1.65	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	2.44	2.40	0.01	0.10	—	0.10	0.09	—	0.09	—	515	515	0.02	< 0.005	—	517
Dust From Material Movement	—	—	—	—	—	0.62	0.62	—	0.30	0.30	—	—	—	—	—	—	—
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.15	1.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	326	326	0.02	0.01	1.45	332

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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.16	1.79	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	312	312	0.02	0.01	0.04	317
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.43	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.9	75.9	0.01	< 0.005	0.15	77.2
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
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
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

3.16. Site Preparation (2024) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.41	55.4	54.5	0.12	2.27	—	2.27	2.09	—	2.09	—	12,898	12,898	0.52	0.10	—	12,942

Dust From Material Movement	—	—	—	—	—	14.2	14.2	—	6.85	6.85	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	6.41	55.4	54.5	0.12	2.27	—	2.27	2.09	—	2.09	—	12,898	12,898	0.52	0.10	—	12,942
Dust From Material Movement	—	—	—	—	—	14.2	14.2	—	6.85	6.85	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.55	13.4	13.1	0.03	0.55	—	0.55	0.50	—	0.50	—	3,110	3,110	0.13	0.03	—	3,120
Dust From Material Movement	—	—	—	—	—	3.42	3.42	—	1.65	1.65	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.28	2.44	2.40	0.01	0.10	—	0.10	0.09	—	0.09	—	515	515	0.02	< 0.005	—	517
Dust From Material Movement	—	—	—	—	—	0.62	0.62	—	0.30	0.30	—	—	—	—	—	—	—
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.15	1.83	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	326	326	0.02	0.01	1.45	332
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.16	1.79	0.00	0.00	0.30	0.30	0.00	0.07	0.07	—	312	312	0.02	0.01	0.04	317
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.43	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	75.9	75.9	0.01	< 0.005	0.15	77.2
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	12.6	12.6	< 0.005	< 0.005	0.02	12.8
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
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

3.17. Grading (2024) - Unmitigated

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

Location	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	2.75	26.2	22.8	0.04	1.16	—	1.16	1.06	—	1.06	—	3,732	3,732	0.15	0.03	—	3,745
Dust From Material Movement	—	—	—	—	—	13.1	13.1	—	6.73	6.73	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	4.66	4.06	0.01	0.21	—	0.21	0.19	—	0.19	—	665	665	0.03	0.01	—	667
Dust From Material Movement	—	—	—	—	—	2.33	2.33	—	1.20	1.20	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.85	0.74	< 0.005	0.04	—	0.04	0.03	—	0.03	—	110	110	< 0.005	< 0.005	—	110
Dust From Material Movement	—	—	—	—	—	0.43	0.43	—	0.22	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	0.85	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	149	149	0.01	0.01	0.02	151
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.7	26.7	< 0.005	< 0.005	0.05	27.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.42	4.42	< 0.005	< 0.005	0.01	4.49
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
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

3.18. Grading (2024) - Mitigated

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

Location	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	2.75	26.2	22.8	0.04	1.16	—	1.16	1.06	—	1.06	—	3,732	3,732	0.15	0.03	—	3,745

Dust From Material Movement	—	—	—	—	—	13.1	13.1	—	6.73	6.73	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.49	4.66	4.06	0.01	0.21	—	0.21	0.19	—	0.19	—	665	665	0.03	0.01	—	667
Dust From Material Movement	—	—	—	—	—	2.33	2.33	—	1.20	1.20	—	—	—	—	—	—	—
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.85	0.74	< 0.005	0.04	—	0.04	0.03	—	0.03	—	110	110	< 0.005	< 0.005	—	110
Dust From Material Movement	—	—	—	—	—	0.43	0.43	—	0.22	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.08	0.85	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	149	149	0.01	0.01	0.02	151
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
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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	26.7	26.7	< 0.005	< 0.005	0.05	27.1
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.42	4.42	< 0.005	< 0.005	0.01	4.49
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
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

3.19. Building Construction (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	34.4	38.7	0.10	1.17	—	1.17	1.08	—	1.08	—	10,236	10,236	0.42	0.08	—	10,271
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	34.4	38.7	0.10	1.17	—	1.17	1.08	—	1.08	—	10,236	10,236	0.42	0.08	—	10,271
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.65	20.6	23.2	0.06	0.70	—	0.70	0.65	—	0.65	—	6,130	6,130	0.25	0.05	—	6,151
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.23	0.01	0.13	—	0.13	0.12	—	0.12	—	1,015	1,015	0.04	0.01	—	1,018
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.16	2.05	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	384	384	0.02	0.02	1.61	391
Vendor	0.02	0.83	0.33	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	562	562	0.02	0.08	1.47	589
Hauling	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	0.01	0.02	0.28	154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.18	2.01	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	368	368	0.02	0.02	0.04	374
Vendor	0.02	0.85	0.34	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	562	562	0.02	0.08	0.04	587
Hauling	< 0.005	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	0.01	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.11	1.19	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	222	222	0.01	0.01	0.42	226
Vendor	0.01	0.51	0.20	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	336	336	0.01	0.05	0.38	352
Hauling	< 0.005	0.13	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.07	91.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.7	36.7	< 0.005	< 0.005	0.07	37.4
Vendor	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.06	58.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.01	15.2

3.20. Building Construction (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	34.4	38.7	0.10	1.17	—	1.17	1.08	—	1.08	—	10,236	10,236	0.42	0.08	—	10,271
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.43	34.4	38.7	0.10	1.17	—	1.17	1.08	—	1.08	—	10,236	10,236	0.42	0.08	—	10,271
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.65	20.6	23.2	0.06	0.70	—	0.70	0.65	—	0.65	—	6,130	6,130	0.25	0.05	—	6,151
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	3.76	4.23	0.01	0.13	—	0.13	0.12	—	0.12	—	1,015	1,015	0.04	0.01	—	1,018
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.16	2.05	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	384	384	0.02	0.02	1.61	391
Vendor	0.02	0.83	0.33	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	562	562	0.02	0.08	1.47	589
Hauling	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	0.01	0.02	0.28	154
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.18	2.01	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	368	368	0.02	0.02	0.04	374
Vendor	0.02	0.85	0.34	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	562	562	0.02	0.08	0.04	587
Hauling	< 0.005	0.21	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	146	146	0.01	0.02	0.01	153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.11	1.19	0.00	0.00	0.22	0.22	0.00	0.05	0.05	—	222	222	0.01	0.01	0.42	226
Vendor	0.01	0.51	0.20	< 0.005	< 0.005	0.09	0.09	< 0.005	0.02	0.03	—	336	336	0.01	0.05	0.38	352
Hauling	< 0.005	0.13	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	87.5	87.5	< 0.005	0.01	0.07	91.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.22	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.7	36.7	< 0.005	< 0.005	0.07	37.4
Vendor	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	55.7	55.7	< 0.005	0.01	0.06	58.3
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.5	14.5	< 0.005	< 0.005	0.01	15.2

3.21. Building Construction (2026) - Unmitigated

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

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

Off-Road Equipment	4.32	32.9	38.6	0.10	1.08	—	1.08	0.99	—	0.99	—	10,241	10,241	0.42	0.08	—	10,276
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.32	32.9	38.6	0.10	1.08	—	1.08	0.99	—	0.99	—	10,241	10,241	0.42	0.08	—	10,276
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.08	23.5	27.5	0.07	0.77	—	0.77	0.71	—	0.71	—	7,315	7,315	0.30	0.06	—	7,340
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.28	5.03	0.01	0.14	—	0.14	0.13	—	0.13	—	1,211	1,211	0.05	0.01	—	1,215
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.15	1.93	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	377	377	0.01	0.02	1.49	384
Vendor	0.02	0.78	0.31	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	551	551	0.02	0.08	1.37	577
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	0.01	0.02	0.27	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.17	1.88	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	361	361	0.02	0.02	0.04	367

Vendor	0.02	0.81	0.32	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	552	552	0.02	0.08	0.04	576
Hauling	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	1.33	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	260	260	0.01	0.01	0.46	264
Vendor	0.01	0.58	0.23	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	394	394	0.01	0.06	0.42	412
Hauling	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	102	102	< 0.005	0.02	0.08	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.0	43.0	< 0.005	< 0.005	0.08	43.8
Vendor	< 0.005	0.11	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	65.2	65.2	< 0.005	0.01	0.07	68.2
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.01	17.8

3.22. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.32	32.9	38.6	0.10	1.08	—	1.08	0.99	—	0.99	—	10,241	10,241	0.42	0.08	—	10,276
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.32	32.9	38.6	0.10	1.08	—	1.08	0.99	—	0.99	—	10,241	10,241	0.42	0.08	—	10,276
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

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.08	23.5	27.5	0.07	0.77	—	0.77	0.71	—	0.71	—	7,315	7,315	0.30	0.06	—	7,340
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	4.28	5.03	0.01	0.14	—	0.14	0.13	—	0.13	—	1,211	1,211	0.05	0.01	—	1,215
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.15	1.93	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	377	377	0.01	0.02	1.49	384
Vendor	0.02	0.78	0.31	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	551	551	0.02	0.08	1.37	577
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	0.01	0.02	0.27	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.17	1.88	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	361	361	0.02	0.02	0.04	367
Vendor	0.02	0.81	0.32	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	552	552	0.02	0.08	0.04	576
Hauling	< 0.005	0.20	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	0.01	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.17	0.12	1.33	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	260	260	0.01	0.01	0.46	264
Vendor	0.01	0.58	0.23	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	394	394	0.01	0.06	0.42	412
Hauling	< 0.005	0.14	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	102	102	< 0.005	0.02	0.08	107
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.24	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	43.0	43.0	< 0.005	< 0.005	0.08	43.8

Vendor	< 0.005	0.11	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	65.2	65.2	< 0.005	0.01	0.07	68.2
Hauling	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	16.9	16.9	< 0.005	< 0.005	0.01	17.8

3.23. Building Construction (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	31.8	38.5	0.10	1.00	—	1.00	0.92	—	0.92	—	10,239	10,239	0.42	0.08	—	10,275
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	31.8	38.5	0.10	1.00	—	1.00	0.92	—	0.92	—	10,239	10,239	0.42	0.08	—	10,275
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	7.46	9.03	0.02	0.24	—	0.24	0.22	—	0.22	—	2,405	2,405	0.10	0.02	—	2,413
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.36	1.65	< 0.005	0.04	—	0.04	0.04	—	0.04	—	398	398	0.02	< 0.005	—	399
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

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.13	1.81	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	370	370	0.01	0.02	1.37	377
Vendor	0.02	0.75	0.30	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	539	539	0.02	0.08	1.24	565
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	140	140	0.01	0.02	0.25	147
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.15	1.76	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	355	355	0.01	0.02	0.04	360
Vendor	0.02	0.77	0.31	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	540	540	0.02	0.08	0.03	564
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	140	140	0.01	0.02	0.01	147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	83.9	83.9	< 0.005	< 0.005	0.14	85.3
Vendor	< 0.005	0.18	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	127	127	< 0.005	0.02	0.13	133
Hauling	< 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	0.02	34.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.02	14.1
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.44	5.44	< 0.005	< 0.005	< 0.005	5.71

3.24. Building Construction (2027) - Mitigated

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

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

Off-Road Equipment	4.24	31.8	38.5	0.10	1.00	—	1.00	0.92	—	0.92	—	10,239	10,239	0.42	0.08	—	10,275
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	31.8	38.5	0.10	1.00	—	1.00	0.92	—	0.92	—	10,239	10,239	0.42	0.08	—	10,275
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	7.46	9.03	0.02	0.24	—	0.24	0.22	—	0.22	—	2,405	2,405	0.10	0.02	—	2,413
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.36	1.65	< 0.005	0.04	—	0.04	0.04	—	0.04	—	398	398	0.02	< 0.005	—	399
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.13	1.81	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	370	370	0.01	0.02	1.37	377
Vendor	0.02	0.75	0.30	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	539	539	0.02	0.08	1.24	565
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	140	140	0.01	0.02	0.25	147
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.15	1.76	0.00	0.00	0.36	0.36	0.00	0.08	0.08	—	355	355	0.01	0.02	0.04	360

Vendor	0.02	0.77	0.31	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	—	540	540	0.02	0.08	0.03	564
Hauling	< 0.005	0.19	0.06	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	140	140	0.01	0.02	0.01	147
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.41	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	83.9	83.9	< 0.005	< 0.005	0.14	85.3
Vendor	< 0.005	0.18	0.07	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	—	127	127	< 0.005	0.02	0.13	133
Hauling	< 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	0.02	34.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.02	14.1
Vendor	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	21.0	21.0	< 0.005	< 0.005	0.02	21.9
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.44	5.44	< 0.005	< 0.005	< 0.005	5.71

3.25. Paving (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.43	30.6	33.3	0.07	1.24	—	1.24	1.14	—	1.14	—	7,529	7,529	0.31	0.06	—	7,555
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.03	9.15	9.96	0.02	0.37	—	0.37	0.34	—	0.34	—	2,248	2,248	0.09	0.02	—	2,256
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.67	1.82	< 0.005	0.07	—	0.07	0.06	—	0.06	—	372	372	0.02	< 0.005	—	374
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.06	0.79	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	162	162	< 0.005	0.01	0.60	164
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.6	46.6	< 0.005	< 0.005	0.08	47.4
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.71	7.71	< 0.005	< 0.005	0.01	7.84
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
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

3.26. Paving (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.43	30.6	33.3	0.07	1.24	—	1.24	1.14	—	1.14	—	7,529	7,529	0.31	0.06	—	7,555
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.03	9.15	9.96	0.02	0.37	—	0.37	0.34	—	0.34	—	2,248	2,248	0.09	0.02	—	2,256
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	1.67	1.82	< 0.005	0.07	—	0.07	0.06	—	0.06	—	372	372	0.02	< 0.005	—	374
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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.10	0.06	0.79	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	162	162	< 0.005	0.01	0.60	164
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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.23	0.00	0.00	0.05	0.05	0.00	0.01	0.01	—	46.6	46.6	< 0.005	< 0.005	0.08	47.4
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.71	7.71	< 0.005	< 0.005	0.01	7.84
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
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

3.27. Architectural Coating (2027) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.09	2.03	< 0.005	0.04	—	0.04	0.03	—	0.03	—	381	381	0.02	< 0.005	—	382
Architectural Coatings	1.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.09	2.03	< 0.005	0.04	—	0.04	0.03	—	0.03	—	381	381	0.02	< 0.005	—	382
Architectural Coatings	1.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.37	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.1
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	76.4	76.4	< 0.005	< 0.005	0.28	77.7
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.36	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.2	73.2	< 0.005	< 0.005	0.01	74.4
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.4
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.17	2.17	< 0.005	< 0.005	< 0.005	2.21
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
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

3.28. Architectural Coating (2027) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.09	2.03	< 0.005	0.04	—	0.04	0.03	—	0.03	—	381	381	0.02	< 0.005	—	382
Architectural Coatings	1.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	2.09	2.03	< 0.005	0.04	—	0.04	0.03	—	0.03	—	381	381	0.02	< 0.005	—	382
Architectural Coatings	1.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.37	0.36	< 0.005	0.01	—	0.01	0.01	—	0.01	—	67.8	67.8	< 0.005	< 0.005	—	68.1
Architectural Coatings	0.34	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.07	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.2	11.2	< 0.005	< 0.005	—	11.3
Architectural Coatings	0.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.37	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	76.4	76.4	< 0.005	< 0.005	0.28	77.7
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
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

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.03	0.36	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	73.2	73.2	< 0.005	< 0.005	0.01	74.4
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
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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.1	13.1	< 0.005	< 0.005	0.02	13.4
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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.17	2.17	< 0.005	< 0.005	< 0.005	2.21
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
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

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Mobile source emissions results are presented in Sections 2.6. No further detailed breakdown of emissions is available.

4.1.2. Mitigated

Mobile source emissions results are presented in Sections 2.5. No further detailed breakdown of emissions is available.

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	0.00	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 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
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

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	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	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49
Total	0.12	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

Total	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

4.3.2. Mitigated

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

Source	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	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49
Total	0.12	< 0.005	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.49	0.49	< 0.005	< 0.005	—	0.49
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	< 0.005	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07
Total	0.02	< 0.005	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.07	0.07	< 0.005	< 0.005	—	0.07

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.94	1.48	2.41	0.10	< 0.005	—	5.51

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.16	0.24	0.40	0.02	< 0.005	—	0.91
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.16	0.24	0.40	0.02	< 0.005	—	0.91

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.85	1.35	2.20	0.09	< 0.005	—	5.02
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	0.14	0.22	0.36	0.01	< 0.005	—	0.83
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.14	0.22	0.36	0.01	< 0.005	—	0.83

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	1.38	0.00	1.38	0.14	0.00	—	4.82
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Office Building	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80
Other Non-Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.23	0.00	0.23	0.02	0.00	—	0.80

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Total	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52

4.7.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Total	0.96	10.1	11.4	0.02	0.20	—	0.20	0.19	—	0.19	—	1,743	1,743	0.07	0.01	—	1,749
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Generator Sets	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52
Total	0.01	0.06	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.49	9.49	< 0.005	< 0.005	—	9.52

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

4.8.2. Mitigated

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

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

4.9.2. Mitigated

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

Equipment Type	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Linear, Pavement Cutting & Site Prep	Linear, Grubbing & Land Clearing	2/1/2025	4/30/2025	5.00	63.0	—
Linear, Pipeline Installation	Linear, Drainage, Utilities, & Sub-Grade	4/1/2025	5/30/2025	5.00	44.0	—
Linear, Paving	Linear, Paving	5/1/2025	6/30/2025	5.00	43.0	—
Linear, Trenching	Linear, Trenching	4/1/2025	5/30/2025	5.00	44.0	—
Demolition	Demolition	1/1/2025	6/30/2027	5.00	651	—
Site Preparation	Site Preparation	7/1/2024	10/30/2024	5.00	88.0	—
Grading	Grading	10/1/2024	12/30/2024	5.00	65.0	—

Building Construction	Building Construction	3/1/2025	4/30/2027	5.00	565	—
Paving	Paving	5/1/2027	9/30/2027	5.00	109	—
Architectural Coating	Architectural Coating	3/1/2027	5/28/2027	5.00	65.0	—

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
Linear, Pavement Cutting & Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Pavement Cutting & Site Prep	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Linear, Pipeline Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Pipeline Installation	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Paving	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Sweepers/Scrubbers	Diesel	Average	1.00	8.00	36.0	0.46
Linear, Trenching	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Dumpers/Tenders	Diesel	Average	2.00	8.00	16.0	0.38
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Demolition	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Off-Highway Trucks	Diesel	Average	4.00	8.00	376	0.38
Site Preparation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43

Site Preparation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Trenchers	Diesel	Average	2.00	8.00	40.0	0.50
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Grading	Pumps	Diesel	Average	4.00	8.00	11.0	0.74
Building Construction	Cranes	Diesel	Average	2.00	7.00	367	0.29
Building Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31
Building Construction	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Building Construction	Cement and Mortar Mixers	Diesel	Average	2.00	8.00	10.0	0.56
Building Construction	Off-Highway Trucks	Diesel	Average	4.00	8.00	376	0.38
Building Construction	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Paving	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Paving	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30
Paving	Sweepers/Scrubbers	Diesel	Average	2.00	8.00	36.0	0.46
Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37

Paving	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Architectural Coating	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31
Architectural Coating	Pressure Washers	Diesel	Average	2.00	8.00	14.0	0.30

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Linear, Pavement Cutting & Site Prep	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Pavement Cutting & Site Prep	Trenchers	Diesel	Average	1.00	8.00	40.0	0.50
Linear, Pipeline Installation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Linear, Pipeline Installation	Rough Terrain Forklifts	Diesel	Average	1.00	8.00	96.0	0.40
Linear, Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Linear, Paving	Plate Compactors	Diesel	Average	1.00	8.00	8.00	0.43
Linear, Paving	Rollers	Diesel	Average	1.00	8.00	36.0	0.38
Linear, Paving	Sweepers/Scrubbers	Diesel	Average	1.00	8.00	36.0	0.46
Linear, Trenching	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Demolition	Dumpers/Tenders	Diesel	Average	2.00	8.00	16.0	0.38
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Demolition	Air Compressors	Diesel	Average	2.00	8.00	37.0	0.48
Site Preparation	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Off-Highway Trucks	Diesel	Average	4.00	8.00	376	0.38
Site Preparation	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Site Preparation	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Site Preparation	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40

Site Preparation	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Trenchers	Diesel	Average	2.00	8.00	40.0	0.50
Grading	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Grading	Plate Compactors	Diesel	Average	2.00	8.00	8.00	0.43
Grading	Pumps	Diesel	Average	4.00	8.00	11.0	0.74
Building Construction	Cranes	Diesel	Average	2.00	7.00	367	0.29
Building Construction	Generator Sets	Diesel	Average	4.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Building Construction	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31
Building Construction	Air Compressors	Diesel	Average	4.00	8.00	37.0	0.48
Building Construction	Cement and Mortar Mixers	Diesel	Average	2.00	8.00	10.0	0.56
Building Construction	Off-Highway Trucks	Diesel	Average	4.00	8.00	376	0.38
Building Construction	Rough Terrain Forklifts	Diesel	Average	2.00	8.00	96.0	0.40
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Scrapers	Diesel	Average	1.00	8.00	423	0.48
Paving	Skid Steer Loaders	Diesel	Average	1.00	8.00	71.0	0.37
Paving	Surfacing Equipment	Diesel	Average	1.00	8.00	399	0.30
Paving	Sweepers/Scrubbers	Diesel	Average	2.00	8.00	36.0	0.46
Paving	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Paving	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40

Architectural Coating	Aerial Lifts	Diesel	Average	2.00	8.00	46.0	0.31
Architectural Coating	Pressure Washers	Diesel	Average	2.00	8.00	14.0	0.30

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	25.0	8.10	LDA,LDT1,LDT2
Grading	Vendor	0.00	6.90	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	6.90	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	8.10	LDA,LDT1,LDT2
Demolition	Vendor	0.00	6.90	HHDT,MHDT
Demolition	Hauling	0.02	12.7	HHDT
Demolition	Onsite truck	0.00	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	63.0	8.10	LDA,LDT1,LDT2
Building Construction	Vendor	25.0	6.90	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	—	—	—	—
Paving	Worker	27.5	8.10	LDA,LDT1,LDT2
Paving	Vendor	0.00	6.90	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	13.0	8.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.90	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT
Linear, Pavement Cutting & Site Prep	—	—	—	—
Linear, Pavement Cutting & Site Prep	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Pavement Cutting & Site Prep	Vendor	0.00	6.90	HHDT,MHDT
Linear, Pavement Cutting & Site Prep	Hauling	0.00	20.0	HHDT
Linear, Pavement Cutting & Site Prep	Onsite truck	0.00	0.00	HHDT
Linear, Pipeline Installation	—	—	—	—
Linear, Pipeline Installation	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Pipeline Installation	Vendor	2.00	6.90	HHDT,MHDT
Linear, Pipeline Installation	Hauling	0.80	20.0	HHDT
Linear, Pipeline Installation	Onsite truck	0.00	—	HHDT
Linear, Trenching	—	—	—	—
Linear, Trenching	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Trenching	Vendor	0.00	6.90	HHDT,MHDT
Linear, Trenching	Hauling	0.00	20.0	HHDT
Linear, Trenching	Onsite truck	0.00	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	16.0	8.10	LDA,LDT1,LDT2

Linear, Paving	Vendor	0.00	6.90	HHDT,MHDT
Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	0.00	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	—	—	—	—
Grading	Worker	25.0	8.10	LDA,LDT1,LDT2
Grading	Vendor	0.00	6.90	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	6.90	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	—	HHDT
Demolition	—	—	—	—
Demolition	Worker	15.0	8.10	LDA,LDT1,LDT2
Demolition	Vendor	0.00	6.90	HHDT,MHDT
Demolition	Hauling	0.02	12.7	HHDT
Demolition	Onsite truck	0.00	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	63.0	8.10	LDA,LDT1,LDT2
Building Construction	Vendor	25.0	6.90	HHDT,MHDT
Building Construction	Hauling	2.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—

Paving	Worker	27.5	8.10	LDA,LDT1,LDT2
Paving	Vendor	0.00	6.90	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	13.0	8.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.90	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	—	HHDT
Linear, Pavement Cutting & Site Prep	—	—	—	—
Linear, Pavement Cutting & Site Prep	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Pavement Cutting & Site Prep	Vendor	0.00	6.90	HHDT,MHDT
Linear, Pavement Cutting & Site Prep	Hauling	0.00	20.0	HHDT
Linear, Pavement Cutting & Site Prep	Onsite truck	0.00	0.00	HHDT
Linear, Pipeline Installation	—	—	—	—
Linear, Pipeline Installation	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Pipeline Installation	Vendor	2.00	6.90	HHDT,MHDT
Linear, Pipeline Installation	Hauling	0.80	20.0	HHDT
Linear, Pipeline Installation	Onsite truck	0.00	—	HHDT
Linear, Trenching	—	—	—	—
Linear, Trenching	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Trenching	Vendor	0.00	6.90	HHDT,MHDT
Linear, Trenching	Hauling	0.00	20.0	HHDT
Linear, Trenching	Onsite truck	0.00	—	HHDT
Linear, Paving	—	—	—	—
Linear, Paving	Worker	16.0	8.10	LDA,LDT1,LDT2
Linear, Paving	Vendor	0.00	6.90	HHDT,MHDT

Linear, Paving	Hauling	0.00	20.0	HHDT
Linear, Paving	Onsite truck	0.00	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	4,125	1,375	8,886

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 (Building Square Footage)	Acres Paved (acres)
Linear, Pavement Cutting & Site Prep	0.00	0.00	0.13	0.00	—
Linear, Pipeline Installation	140	140	0.13	0.00	—
Demolition	0.00	0.00	0.00	930	—
Site Preparation	0.00	0.00	176	0.00	—
Grading	0.00	0.00	65.0	0.00	—
Paving	0.00	0.00	0.00	0.00	3.53

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Office Building	0.00	0%
User Defined Linear	0.13	100%
Other Non-Asphalt Surfaces	3.40	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005
2026	0.00	204	0.03	< 0.005
2027	0.00	204	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
Total all Land Uses	2.90	2.90	2.90	1,058	37.7	37.7	37.7	13,754

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Total all Land Uses	2.90	2.90	2.90	1,058	37.7	37.7	37.7	13,754

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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	4,125	1,375	8,886

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	330

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	330

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	0.00	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
General Office Building	0.00	204	0.0330	0.0040	0.00
Other Non-Asphalt Surfaces	0.00	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	488,768	0.00
Other Non-Asphalt Surfaces	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Office Building	445,267	0.00
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)
General Office Building	2.56	—
Other Non-Asphalt Surfaces	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Office Building	2.56	—
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
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Generator Sets	Diesel	Average	1.00	4.00	470	0.74

5.15.2. Mitigated

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

Generator Sets	Diesel	Average	1.00	4.00	470	0.74

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

8. User Changes to Default Data

Screen	Justification
Land Use	On-site pond acreage estimated in google earth. Off-site spray field modeled as non-asphalt surface. On-site facilities modeled as general office building.
Construction: Construction Phases	Construction schedule provided by WSC
Construction: Off-Road Equipment	Equipment list provided by WSC
Construction: Dust From Material Movement	Import/export for pipeline installation provided by WSC
Construction: Trips and VMT	Demo trip length and pipeline worker estimates provided by WSC.
Operations: Fleet Mix	Chemical deliveries and biosolid disposal estimated to require 0.57 MDV trips per weekday. All deliveries & disposal assumed to be MDV. Maintenance assumed to be LDT2
Operations: Energy Use	Electricity emissions calculated separately. No natural gas connections
Operations: Off-Road Equipment	350 ekW generator (350 ekW=470 hp). Assumed to operate 4 hours/month for maintenance and testing

HRCSD WRRF Project

Electricity GHG Emissions Estimation Tool

Total Estimated Electricity Usage (MWh)
253

GHG Emission Calculations

	UTILITY		CO_2e Conversion Calculations	
	Energy Intensity Factor (lbs/MWh)	Emissions (lbs)	Total CO_2e Emissions (lbs)	Total CO_2e Emissions (MT)
CO_2	203.98	51,607	51,607	23
CH_4	0.033	8	209	0
N_2O	0.004	1	302	0
			TOTAL GHG EMISSIONS FROM ELECTRICITY	**24**

Notes

- MWh = megawatt-hours; lbs = pounds; CO_2 = carbon dioxide, CH_4 = methane; N_2O = nitrous oxide; CO_2e = carbon dioxide equivalent; MT = metric tons; IPCC = Intergovernmental Panel on Climate Change; CARB = California Air Resources Board

- Energy intensity factors for EPG&E based on CalEEMod default values.

Appendix B

Biological Resources Assessment

Heritage Ranch Water Resource Recovery Facility Project

Biological Evaluation/Biological Resources Assessment

prepared for

Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446
Contact: Scott Duffield, P.E., General Manager

prepared by

Rincon Consultants, Inc.
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November 2023

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Appendices

1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Evaluation/Biological Resources Assessment for the Heritage Ranch Water Resource Recovery Facility (WRRF) Project (herein referred to as "proposed action" or "project"), which includes upgrades to the existing Heritage Ranch Community Services District (HRCSD) wastewater treatment plant, effluent pipeline, and spray field to bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth within the HRCSD service area. This study has been completed in accordance with the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), and the federal Endangered Species Act (ESA).

1.1 Project Location

The project site is located in Lake Nacimiento, a census-designated place in unincorporated San Luis Obispo County and is comprised of three non-contiguous areas, the existing HRCSD wastewater treatment plant, the existing HRCSD spray field, and the replacement effluent pipeline alignment. The wastewater treatment plant location (Assessor's Parcel Number [APN] 012-181-085) is comprised of an approximately 5.5-acre site at 4870 Heritage Road in Paso Robles. The spray field location (APN 012-361-018) is comprised of an approximately 1.6-acre site at the end of a private road that proceeds from the northern terminus of Parkway Circle. The replacement effluent pipeline alignment is comprised of an approximately 2,800-linear-foot alignment along Heritage Road and Gateway Drive. The alignment proceeds from the southeastern corner of the wastewater treatment plant location on Heritage Road, south to Gateway Drive, and east on Gateway Drive to the Gateway Drive and Longhorn Lane intersection.

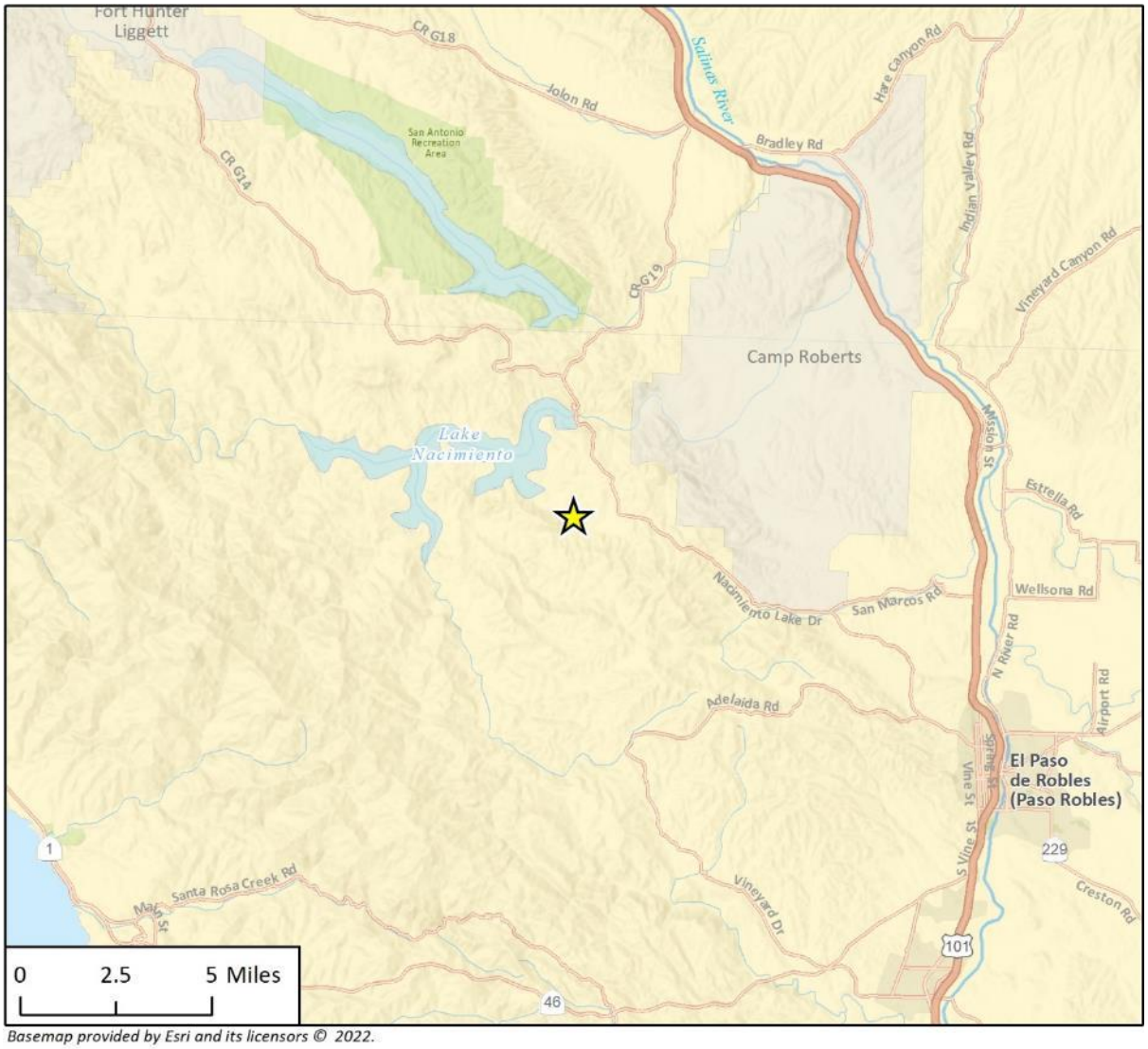
The project site is located approximately 10 miles east of the city of Paso Robles and is within the *Lime Mountain and Adelaida, California* United States Geological Survey (USGS) 7.5-minute topographic quadrangles. The Public Land Survey System depicts the project site within Township 25S, Range 10E, Sections 25 and 27, Mt. Diablo Meridian. See Figure 1 for a map of the regional project location and Figure 2, Figure 3, Figure 4, and Figure 5 for maps of the project site in a local context.

1.2 Action Area and Study Area

The Action Area is the geographic area encompassing all the physical, chemical, and biological changes that will occur directly or indirectly from the proposed action. The proposed action includes a number of different components to be constructed/installed within the existing HRCSD wastewater treatment plant property, spray field property, and replacement effluent pipeline alignment, all of which have been previously disturbed. Access points, staging areas, and areas of permanent and temporary disturbance required to fulfill the purpose and need of the proposed action are located within the boundaries of these properties (Figure 2, Figure 3, Figure 4, and Figure 5).

The biological study area, hereinafter referred to as the "Study Area", is synonymous with the Action Area. The Study Area is used in this analysis to inform the existing baseline conditions, ecological context within the Action Area, as well as assisting in informing the potential for the Action Area to support federally listed species.

Figure 1 Regional Location



Basemap provided by Esri and its licensors © 2022.

Study Area/Action Area

N

Figure 2 Action Area and Study Area

Figure 3 Action Area and Study Area – Wastewater Treatment Plant Location

Imagery provided by Microsoft Bing and its licensors © 2023.

Figure 4 Action Area and Study Area – Spray Field Location

Figure 5 Action Area and Study Area – Replacement Effluent Pipeline Alignment

Imagery provided by Microsoft Bing and its licensors © 2023.

21-11535 BIO
Fig 2 Biological Study Area_Pg2_V3

1.3 Purpose and Need of the Proposed Action

The HRCSD received a new Waste Discharge Requirements (WDR) from the Central Coast Regional Water Quality Control Board (CCRWQCB) in September 2017 (Waste Discharge Order No. R3-2017 0026). HRCSD was unable to meet the standards in the WDR for copper, nitrate, and un-ionized ammonia. As a result, HRCSD received a Time Schedule Order from the CCRWQCB in May 2018 (R3-2018-0011), which granted HRCSD five years to make necessary process improvements to achieve compliance with its WDR. HRCSD spent the next few years making process adjustments but remained unable to achieve compliance. In April 2021, a preliminary engineering memorandum determined the existing treatment ponds lacked capacity to treat wastewater to meet discharge requirements. In light of these results, HRCSD determined replacement of its existing treatment process was necessary and requested an additional Time Schedule Order from the Central Coast RWQCB. The updated Time Schedule Order (TSO R3-2022-0046) went into effect on October 14, 2022 and is the final time extension available to HRCSD, which grants it five years to complete construction and commissioning of new treatment processes.

1.4 Proposed Action

The proposed action includes upgrades to the existing HRCSD wastewater treatment plant, effluent pipeline, and spray field to comply with Waste Discharge Order No. R3-2017-0026. The overall pipeline alignment corridor for influent to the existing HRCSD wastewater treatment plant location would remain unchanged. The proposed action is intended to bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed action would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity).

Water Resource Recovery Facility

The proposed action would include modification and demolition of the existing HRCSD wastewater treatment plant elements and construction of new WRRF elements with an average annual daily flow capacity of approximately 0.29 million gallons per day. The WRRF would produce tertiary treated effluent, a portion of which may be re-used in on-site processes. In addition to treatment process infrastructure, the WRRF would include supporting facilities necessary to operate, maintain, secure, and preserve the site. These supporting facilities would consist of office space to provide administrative support; a standby power generation enclosure for emergency backup power supply; an electrical building to house electrical and control equipment; and safety and spill prevention structures. A diesel backup generator would be installed for use during power outages and other emergency situations.

Wastewater Discharge

The proposed project includes installation of a new, eight-inch-diameter effluent pipeline between the southeastern corner of the wastewater treatment plant location and the Gateway Drive and Longhorn Lane intersection. This new effluent pipeline would replace the existing, aging six-inch-diameter pipeline, which does not meet current design pressure requirements and would be

abandoned in place. The new effluent pipeline would be located between the existing pipeline and the nearest edge of pavement, approximately five feet from the edge of the pavement and within the paved roadway.

The new effluent pipeline in conjunction with the existing force main east of its terminus would convey secondary treated effluent to the outfall located at the existing spray field location at 35.730833°N, 120.839167 °W. As part of the proposed action, modifications at the spray field location would consist of demolition and abandonment of the sand filters in use at the existing spray field and replacement of the de-chlorination facilities with a more robust de-chlorination process. The replacement of the de-chlorination facilities would not require ground disturbance because the section of pipe that would be replaced is aboveground and would be replaced with a similar aboveground section of pipe. No disturbance within the adjacent riparian zone would be required to replace the de-chlorination facilities. In addition, no modifications to the storage pond located adjacent to the existing spray field would occur, and discharges to the storage pond would remain the same as under existing conditions.

Construction

Construction of the proposed action would occur over an approximately three-year period between approximately June 2024 and August 2027. Construction activities at the wastewater treatment plant and spray field locations would consist of demolition, site preparation, grading, building construction, infrastructure installation, paving, site restoration, and architectural coating. In addition, rock breaking/processing might be required. Rock breaking could occur at the influent splitter box and influent pipelines. Rock breaking would be accomplished by an excavator and rock breakers if hard rock is encountered. The proposed action would require demolition of the existing chlorine chemical storage structure, storage shed, fuel tanks shed, and effluent pump station. In addition, some vegetation and tree removal would be required to accommodate the proposed WRRF, including removal of grasses and several small oaks previously planted by HRCSD staff. On-site utilities such as electrical, sewer, and water lines would likely be demolished or relocated within the Action Area. The maximum depth of excavation would be approximately 15 feet. Approximately 4,000 cubic yards of soil would be excavated and used on site as fill material.

Construction activities for the new effluent pipeline would consist of demolition/pavement cutting, site preparation, trenching, pipeline installation and paving/site restoration. The new pipeline would be installed via open trenching methods, and the trench would be approximately two feet wide. The work area along the alignment would typically be approximately 15 feet wide by 300 feet long, and approximately 200 linear feet of pipeline would be installed per day. The maximum depth of excavation would be approximately 4.25 feet. Approximately 1,165 cubic yards of soil would be excavated with approximately 1,025 cubic yards used on site as fill material. Approximately 140 cubic yards of soil material would be exported, and approximately 140 cubic yards of fill material for pipe bedding would be imported. The replacement pipeline would be located between the existing six-foot diameter pipeline and the nearest edge of pavement, approximately five feet from the edge of the pavement within the existing roadway.

Construction equipment and materials staging along with construction worker parking would occur within the Action Area. Approximately 10 to 25 construction workers would be on site on any given day. Delivery and haul trucks would access the site from Heritage Road, and temporary lane closures may be required when large trucks are entering or exiting the site.

Operation and Maintenance

The facility would operate 24 hours per day, 365 days per year. Maintenance staff would visit the Action Area daily, and approximately four to five additional vehicles would visit the wastewater treatment plant portion of the Action Area each month for purposes such as chemical deliveries. During operation, chemicals would be added throughout the wastewater treatment process to provide an alkalinity source, control odors, improve sludge conditioning, disinfect the water, and clean the MBR membranes. Chemicals would be stored in double-walled tanks, chemical drums, double-walled plastic totes/tanks, and/or a prefabricated storage shed. The biosolids produced from the facility would be exported from the wastewater treatment plant portion of the Action Area to private composting facilities in Santa Barbara or Kern County for beneficial reuse or to a landfill for disposal.

1.5 Regulatory Summary

Regulated or sensitive resources analyzed included special status plant and wildlife species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement, regionally protected resources (e.g., from Habitat Conservation Plans [HCPs] and Natural Community Conservation Plans [NCCPs]), and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the County of San Luis Obispo).

1.5.1 Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the Federal Endangered Species Act (FESA); including proposed and candidate species
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act (CESA)
- Species designated as Fully Protected by the California Fish and Game Code (CFGC), and Species of Special Concern or Watch List by the California Department of Fish and Wildlife (CDFW)
- Native Plant Protection Act (NPPA) – State Rare
- California Native Plant Society (CNPS) California Rare Plant Ranks (CRPR) 1A, 1B, 2A, and 2B
- Species designated as sensitive by the United States. Forest Service or United States Bureau of Land Management, if the project would affect lands administered by these agencies
- Species designated as locally important by the local agency and/or otherwise protected through ordinance, local policy, or HCPs/NCCPs

1.5.2 Environmental Statutes

For the purpose of this report, potential impacts to biological resources were analyzed based on the following statutes (see Appendix A for more detail):

- California Environmental Quality Act National Environmental Policy Act
- Federal Endangered Species Act
- California Endangered Species Act

- Federal Clean Water Act (CWA)
- California Fish and Game Code
- Migratory Bird Treaty Act (MBTA)
- The Bald and Golden Eagle Protection Act
- Porter-Cologne Water Quality Control Act

1.5.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by the CEQA Guidelines Appendix G Initial Study Checklist, were used to evaluate potential environmental effects. Based on these criteria, the proposed action would have a significant effect on biological resources if it would:

a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the CDFW or United States Fish and Wildlife Service (USFWS).

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

e) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

2 Methodology

2.1 Literature Review

Rincon conducted a literature review to characterize the nature and extent of biological resources on and adjacent to the Study Area. The literature review included an evaluation of current and historical aerial photographs of the site (Google Earth), as well as regional and site-specific topographic maps.

Queries of the USFWS Information for Planning and Consultation system (UFWS 2023a and Appendix B), CDFW California Natural Diversity Database (CNDDB; CDFW 2023a), and CNPS online Inventory of Rare and Endangered Plants of California (CNPS 2023) were conducted to obtain comprehensive information regarding state and federally listed species, and other special status species, considered to have potential to occur within the *Lime Mountain* and *Adelaida, California* USGS 7.5-minute topographic quadrangle and the surrounding ten quadrangles (*Bryson, Tierra Redonda Mountain, Bradley, San Miguel, Paso Robles, Templeton, York Mountain, Cypress Mountain, Cambria,* and *Pebblestone Shut-in*). The results of database queries and lists of special status species were reviewed by Rincon's regional biological experts for accuracy and completeness. The final list of special status biological resources (species and sensitive natural communities) was evaluated based on documented occurrences within the ten-quadrangle search area and biologists' expert opinions on species known to occur in the region. The evaluation results and justification were compiled into tables (Appendix C).

The following resources were reviewed for additional information relating to biological resources within the Study Area and Action Area:

- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS) Web Soil Survey (2023a)
- USFWS Critical Habitat Portal (2023b)
- CDFW Biogeographic Information and Observation System (CDFW 2023b)
- CDFW Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2023c)
- CDFW Special Animals List (CDFW 2023d)

The potential for wildlife movement corridors was evaluated based on the California Essential Habitat Connectivity Project commissioned by the California Department of Transportation and CDFW (Spencer et al. 2010).

2.2 Field Reconnaissance Surveys

Field reconnaissance surveys were conducted to document the existing site conditions and to evaluate the potential for presence of sensitive biological resources, including special status plant and animal species, sensitive plant communities, and potentially jurisdictional waters and wetlands within the Study Area. A field reconnaissance survey was conducted by Rincon Senior Biologist Michael Tom on October 6, 2022. Mr. Tom surveyed the Study Area and Action Area associated with the WRRF and spray field locations on foot and recorded biological resources encountered on site. An additional field reconnaissance survey was conducted by Mr. Tom and Rincon Biologist Adam

Card on September 21, 2023. Mr. Tom and Mr. Card surveyed the Study Area and Action Area associated with the replacement effluent pipeline alignment and recorded biological resources encountered on site.

During the surveys, an inventory of plant and animal species observed was compiled (Appendix D) and special status species, if observed during the surveys, were mapped. Plant species nomenclature and taxonomy followed The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al. 2012). All plant species encountered were noted and identified to the lowest possible taxonomic level. The vegetation classification system used for this analysis is based on A Manual of California Vegetation, Second Edition (MCV2; Sawyer et al. 2009) with modifications as needed to accurately describe the existing habitats observed on site.

Wildlife identification and nomenclature followed standard reference texts including Field Guide to Birds of Western North America (Sibley 2016), Field Guide to Western Reptiles and Amphibians (Stebbins 2003), and Mammals of North America (Bowers et al. 2004). The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the Study Area during the field surveys. Several sensitive species were eliminated from consideration for potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or known regional distribution.

3 Existing Environment

This section summarizes the results of the literature review and reconnaissance-level field surveys. Discussions regarding the general environmental setting, vegetation communities present, plants and animals observed, potential special status species issues, and other possible constraints regarding the biological resources on site are presented below. Representative photographs of the Action Area are provided in Appendix E. A complete list of all plant and animal species observed on site during the field surveys is presented as Appendix D.

3.1 Physical Characteristics

The Action Area is located in northern San Luis Obispo County, where the climate is moderate and typifies a Mediterranean coastal climate throughout the year. The Action Area is within the South Coast Ranges geographic subregion of California. Within this subregion, the site occurs within the Outer South Coast Range district. The South Coast Ranges subregion is a component of the larger Central Western California geographic region, which occurs within the even larger California Floristic Province (Baldwin et al. 2012). Topography at the wastewater treatment plant portion of the Action Area consists of gently rolling hills while the spray field portion of the Action Area is located at the bottom of a small canyon among steeper terrain. Topography along the replacement effluent pipeline alignment consists of a combination of gently rolling hills and flat terrain.

3.1.1 Watersheds and Drainages

The Action Area is located within the Nacimiento Reservoir-Nacimiento River and Nacimiento River watersheds (Hydrologic Unit Code 180600050610 and 180600050611, respectively). No wetlands or drainages are mapped within the wastewater treatment plant portion of the Action Area by the National Wetlands Inventory (USFWS 2023c) or National Hydrography Dataset (USGS 2023). The two existing plastic-lined wastewater treatment ponds in this area (Figure 6 in Section 3.2, *Vegetation Communities and Other Land Cover Types*) are depicted as freshwater ponds by the National Wetlands Inventory, but no freshwater ponds were observed within this portion of the Action Area during the October 6, 2022 reconnaissance survey. One unnamed drainage occurs adjacent to the northwest corner of the spray field portion of the Action Area. The riparian community associated with the unnamed drainage occurs within the Action Area (Figure 7 in Section 3.2, *Vegetation Communities and Other Land Cover Types*). This unnamed drainage is hydrologically connected to the Nacimiento River.

No drainages or wetlands are located within the replacement effluent pipeline portion of the Action Area; however, three unnamed drainages are located adjacent to its alignment. The National Wetlands Inventory and National Hydrography Dataset depict one of the unnamed drainages as being located just west of the intersection of Gateway Drive and Meadow Lark Lane. This unnamed drainage is hydrologically connected to the Nacimiento River. During the reconnaissance survey that was conducted on September 21, 2023, additional unnamed drainages that are not depicted on the National Wetlands Inventory or National Hydrography databases were observed near the intersection of Heritage Road and Gateway Drive and just west of Gateway Drive and Pintail Avenue.

3.1.2 Soils

The Natural Resources Conservation Service Web Soil Survey delineates two soil map units within the Action Area: Dibble clay loam, 3 to 26 percent slopes, MLRA 15 and Ryer clay loam, 2 to 9 percent slopes. These soil map units are not designated as hydric soils in the National Hydric Soils List (United States Department of Agriculture Natural Resources Conservation Service 2022b). Site-specific soil observations are consistent with those mapped by the Natural Resources Conservation Service Web Soil Survey. Descriptions of each soil map unit are presented below.

- **Dibble clay loam, 3 to 26 percent slopes, MLRA 15** is a well-drained soil that is formed in residuum weathered from sandstone and shale. A typical soil profile has clay loam, clay, and bedrock to at least 44 inches.
- **Ryer clay loam, 2 to 9 percent slopes**, are well drained soils on foot slopes. They are formed from alluvium derived from mixed rocks. A typical soil profile has clay loam and clay to at least 60 inches.

3.2 Vegetation Communities and Other Land Cover Types

Three vegetation communities or land cover types occur within the Action Area: ruderal, riparian, and developed (Figure 6, Figure 7, and Figure 8). Vegetation was classified during reconnaissance surveys to characterize the Action Area and is described in more detail below.

3.2.1 Ruderal

The ruderal vegetation community type within the Action Area is characterized by areas that are regularly disturbed by human activities. Given that this community type is not naturally occurring, it is also not described in the Sawyer et al. (2009) classification system. Generally, ruderal vegetation composition and structure can vary depending upon the degree of disturbance or development but is usually dominated by non-native plant species. Within the Action Area, ruderal vegetation occurs at the WRRF location in all terrestrial areas not already completely developed or occupied by the existing treatment ponds (Figure 6). One dominant plant species was observed within this vegetation community in the Action Area, red-stemmed filaree (*Erodium cicutarium*). Other plant species observed in low abundance included common wild oat (*Avena fatua*) and vinegar weed (*Lessingia glandulifera*). Six planted coast live oak trees (*Quercus agrifolia*) also occur within this vegetation community.

3.2.2 Riparian

Riparian vegetation occurs in a small portion of the Action Area at the spray field location (Figure 7). The riparian community occurs in the northwest corner of this portion of the Action Area and is associated with the unnamed drainage described in Section 3.1.1, *Watersheds and Drainages*. Arroyo willow (*Salix lasiolepis*) is the dominant tree in the canopy. A small number of coyote brush (*Baccharis pilularis*) shrubs occur interspersed and along the edge of this vegetation community. This vegetation community corresponds to the *Salix lasiolepis* Shrubland Alliance (Sawyer et al. 2009).

Figure 6 Vegetation Communities and Cover Types (Wastewater Treatment Plant Location)

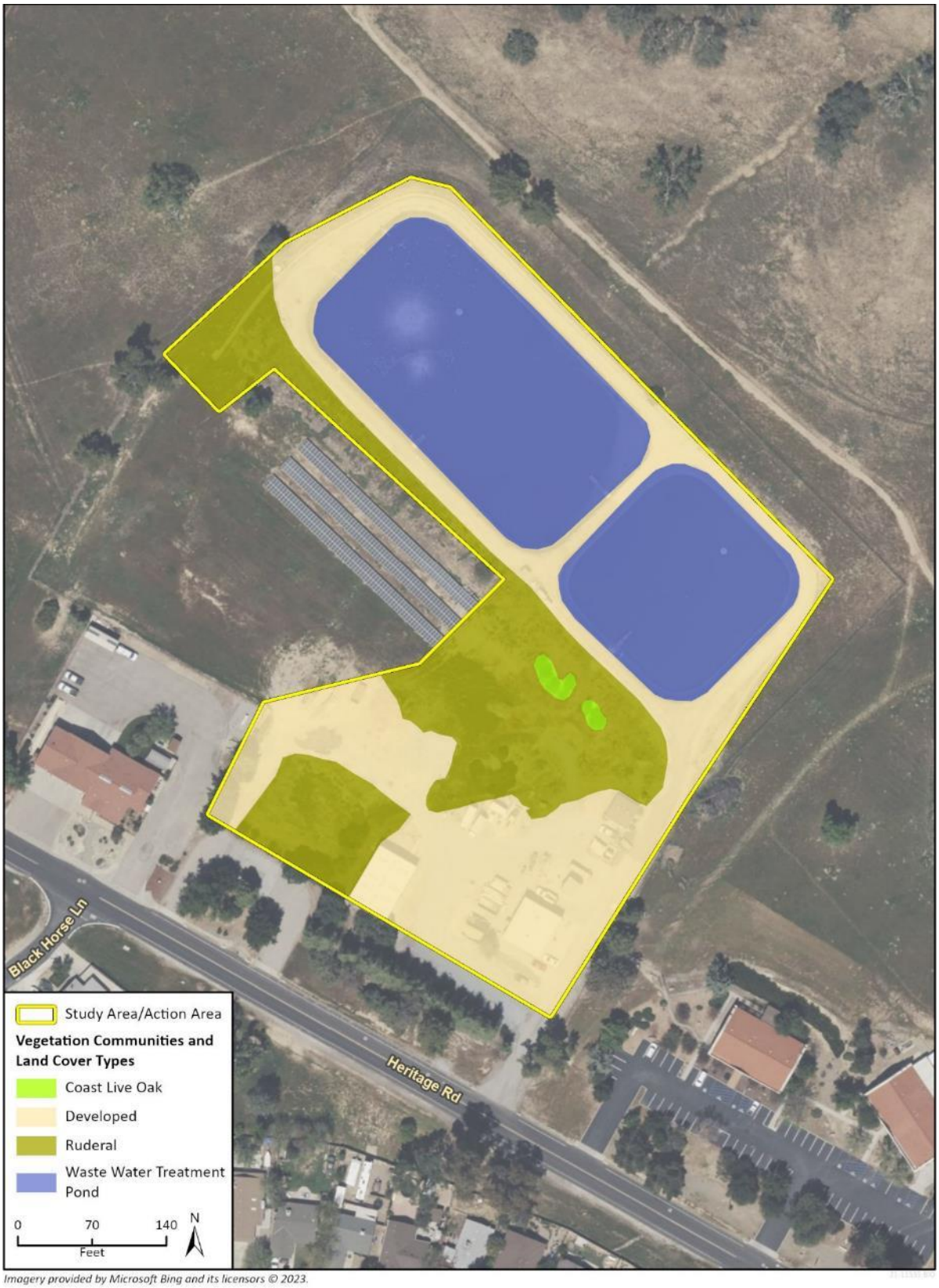


Figure 7 Vegetation Communities and Cover Types (Spray Field Location)

Figure 8 Vegetation Communities and Cover Types (Replacement Effluent Pipeline Location)

3.2.3 Developed

Developed areas at the wastewater treatment plant portion of the Action Area include constructed roads, buildings, and associated landscaping (Figure 6). Developed areas at the spray field portion of the Action Area consist of constructed roads and the existing constructed sand filter areas (Figure 7). Developed areas at the replacement effluent pipeline portion of the Action Area consist of constructed roads (Figure 8). Given that this land cover type is not naturally occurring, it is also not described in the Sawyer et al. (2009) classification system.

3.3 General Wildlife

Wildlife activity was generally low during the reconnaissance surveys, and the quality of habitat for wildlife is limited since the majority of the Action Area is developed, especially within the wastewater treatment plant and effluent pipeline portions of the Action Area. A list of wildlife observed during surveys is found in Appendix D. Generally, the majority of native wildlife species expected to occur are those that are adapted to or can tolerate anthropogenic disturbances and/or anthropogenic environments. Although, not observed within the Action Area, California ground squirrels (*Otospermophilus beecheyi*) were observed adjacent to the Action Area at the wastewater treatment plant location. California ground squirrel burrows were observed along the effluent pipeline portion of the Action Area.

4 Sensitive Biological Resources

This section discusses special status species and sensitive biological resources observed within the Action Area and evaluates the potential for the Action Area to support additional sensitive biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB and other sources, species occurrence records from other sites in the vicinity of the Action Area, previous reports for the Action Area, and the results of surveys of the Action Area. The potential for each special status species to occur in the Action Area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the Action Area is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable within the Action Area if present (e.g., oak trees). Protocol surveys (if conducted) did not detect species.
- **Low Potential.** Few of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Action Area is unsuitable or of very poor quality. The species is not likely to be found within the Action Area. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Action Area is unsuitable. The species has a moderate probability of being found within the Action Area.
- **High Potential.** All the habitat components (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime) meeting the species requirements are present and/or most of the habitat on or adjacent to the Action Area is highly suitable. The species has a high probability of being found within the Action Area.
- **Present.** Species is observed within the Action Area or has been recorded (e.g., CNDDB, other reports) within the Action Area recently (within the last five years).

4.1 Special Status Species

4.1.1 Special Status Plant Species

Based on the database and literature reviews, 91 special status plant species are known to or have the potential to occur within the regional vicinity of the Study Area (Appendix C). Of these, three special status plant species may occur within the Study Area based on the presence of suitable habitat, none of which are listed under the federal ESA or California Endangered Species Act. These species include:

- Santa Lucia dwarf rush (*Juncus luciensis*) – CRPR List 1B.2
- Abbott's bush-mallow (*Malacothamnus abbottii*) – CRPR List 1B.1
- Davidson's bush-mallow (*Malacothamnus davidsonii*) – CRPR List 1B.2

These three special status plant species, all of which are annuals, were not detected during the reconnaissance-level surveys; however, the surveys were not conducted within the blooming

periods for these species. As such, their potential to occur within the Study Area is based solely on the presence of potentially suitable habitat, which is limited to the riparian area described in Section 3.2.2, *Vegetation Communities and Other Land Cover Types*, as occurring in the northwest corner of the spray field portion of the Action Area. CRPR List 1B and 2 species are typically regarded as rare, threatened, or endangered under CEQA and were considered as such in this document. CRPR List 4 species have limited distribution globally but are fairly common within their range. CRPR List 3 and List 4 plant species are typically not considered as special status species for the purpose of analysis under CEQA except where they are designated as rare or otherwise protected by local governments.

4.1.2 Special Status Wildlife Species

Based on the database and literature reviews, 39 special status wildlife species are known to or have the potential to occur in the regional vicinity of the Study Area (Appendix C). Of those, the following nine special status animal species were determined to have moderate or high potential to occur within the Study Area and are further discussed:

- California red-legged frog (*Rana draytonii*)
- Coast Range newt (*Taricha torosa*)
- Southwestern pond turtle (*Actinemys pallida*)
- Two-striped gartersnake (*Thamnophis hammondii*)
- Yellow-billed cuckoo (*Coccyzus americanus*)
- Southwestern willow flycatcher (*Empidonax traillii extimus*)
- Yellow warbler (Setophaga petechia)
- Monterey big-eared (dusky-footed) woodrat (*Neotoma macrotis luciana*)
- American badger (*Taxidea taxus*)

California Red-legged Frog, Coast Range Newt, Southwestern Pond Turtle, and Two-Striped Gartersnake

California red-legged frog is a federally Threatened and a state Species of Special Concern, and Coast Range newt, southwestern pond turtle, and two-striped gartersnake are state Species of Special Concern. No suitable habitat for these species occurs within the wastewater treatment plant portion of the Action Area. In addition, no suitable breeding habitat for any of these species occurs within the spray field portion of the Action Area. However, the riparian area mapped in the northwest corner of the spray field (Figure 7) has the potential to serve as upland habitat for these species if they are present within the unnamed drainage described in Section 3.1.1, *Watersheds and Drainages*. The existing storage pond southwest of the spray field may also provide suitable habitat for these species, and southwestern pond turtle is known to occur within the existing storage pond. If present within these aquatic features, these semi-aquatic species may be encountered incidentally within the spray field portion of the Action Area during conditions conducive to upland movement such as during rain, fog, or at night due to the proximity of the riparian area.

Although outside the Action Area, the unnamed drainage adjacent to and just west of the intersection of Gateway Drive and Pintail Avenue (near the replacement effluent pipeline alignment) also contains low habitat suitability for these species. These semi-aquatic species may be encountered incidentally during conditions conducive to upland movement (e.g., during movement along the road) such as during rain, fog, or at night, due to the proximity of the unnamed drainage .

American Badger

American badger is a state Species of Special Concern. No American badgers or their sign were detected within the Action Area during the reconnaissance-level surveys. This species utilizes a wide variety of scrub, forest, and grassland habitats with friable soils. The upland areas within all of the Action Area provide potentially suitable habitat for this species. Sign of a suitable prey base for American badger in the form of California ground squirrels and other burrowing small mammals was observed during the reconnaissance-level surveys. Areas suitable for den construction could include undeveloped portions of the Action Area, and the species could traverse developed portions of the Action Area.

Monterey Big-eared Woodrat

Monterey big-eared woodrat (previously known as Monterey dusky-footed woodrat) is a state Species of Special Concern. No suitable habitat for this species occurs within the wastewater treatment plant portion of the Action Area. No woodrat houses or sign were observed within the Action Area during the reconnaissance-level surveys, but the riparian community mapped in the northwest corner of the spray field portion of the Action Area (Figure 5) is potential habitat for the species.

Special Status and Nesting Birds

Special status birds with the potential to occur within the Action Area include yellow-billed cuckoo (federally Threatened and state Endangered), southwestern willow flycatcher (federally Threatened and state Endangered), and yellow warbler (state Species of Concern). Native vegetation, namely the various trees within and adjacent to the wastewater treatment plant portion of the Action Area and the riparian communities within the spray field location and adjacent to the replacement effluent pipeline portion of the Action Area, provide suitable nesting habitat for common bird species, which are protected by the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. In addition, to providing suitable nesting habitat for common bird species, the riparian communities within the spray field portion of the Action Area also provide suitable nesting habitat for three special status bird species (yellow-billed cuckoo, southwestern willow flycatcher, and yellow warbler). While sparse and disturbed, riparian vegetation adjacent to the replacement effluent pipeline location may also provide low quality habitat to these special status bird species.

4.2 Sensitive Natural Communities and Critical Habitat

Vegetation types within the Action Area were compared to the List of Vegetation Alliances and Associations instead of the Sensitive Natural Communities List in the CNDDB due to outdated information (CDFW 2023e). According to the CDFW Vegetation Program, Alliances with state ranks of S1 through S3 are considered to be imperiled, and thus, potentially of special concern. No vegetation communities with rank S1 through S3 or otherwise designated as high priority or potentially rare in the hierarchical list are present in the Action Area. In addition, the Action Area is not located within federally designated critical habitat (USFWS 2023b).

4.3 Jurisdictional Waters and Wetlands

One potentially jurisdictional feature occurs in the northwest corner of the spray field location of the Action Area, as described in Section 3.1.1, *Watersheds and Drainages*. The unnamed drainage is not located within the Action Area; however, some riparian vegetation associated with this drainage is location within the Action Area, as described in Section 3.2.2, *Vegetation Communities and Other Land Cover Types* and depicted in Figure 5). The riparian vegetation would likely be under the jurisdiction of CDFW and CCRWQCB.

In addition, three potentially jurisdictional features occur adjacent to the replacement effluent pipeline portion of the Action Area, as described in Section 3.1.1, *Watersheds and Drainages*. These unnamed drainages and their associated riparian vegetation are not located within the Action Area.

4.4 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a linkage between foraging and denning areas, or they may be regional in nature. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

The habitats within the link do not necessarily need to be the same as the habitats that are being linked. Rather, the link merely needs to contain sufficient cover and forage to allow temporary inhabitation by ground-dwelling species. Typically, habitat linkages are contiguous strips of natural areas, although dense plantings of landscape vegetation can be used by certain disturbance-tolerant species. Depending on the species using a corridor, specific physical resources (such as rock outcroppings, vernal pools, or oak trees) may need to be located within the habitat link at certain intervals to allow slower-moving species to traverse the link. For highly mobile or aerial species, habitat linkages may be discontinuous patches of suitable resources spaced sufficiently close together to permit travel along a route in a short period of time.

Wildlife movement corridors can be both large and small scale. Regionally, the Action Area is not located within an Essential Connectivity Area (ECA) as mapped in the report California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California (Spencer et al. 2010). ECAs represent principal connections between Natural Landscape Blocks and constitute regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse ecological condition indicators rather than the needs of species and thus serve the majority of species in each region.

The Action Area is also largely developed with regular human activities occurring and the wastewater treatment plant portion is completely fenced. Therefore, the Action Area does not likely contribute significantly as an important corridor for regional movement compared to the surrounding undeveloped habitats.

4.5 Resources Protected by Local Policies and Ordinances

No local policies or ordinances protecting biological resources pertain to the Action Area; therefore, no resources protected by local policies or ordinances are present within the Action Area.

4.6 Habitat Conservation Plans

The Action Area is not located in an area subject to an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plans.

5 Impact Analysis and Mitigation Measures

5.1 Special Status Species Impacts

The proposed action would have a significant effect on biological resources if it would:

a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.*

5.1.1 Special Status Plants Impacts

As described in Section 4.1.1, *Special Status Plant Species*, three special status plant species have potential to occur within the spray field portion of the Action Area, specifically within the riparian community in the northwest corner. However, impacts from implementation of the proposed action would occur outside of the riparian community and would therefore avoid suitable habitat for special status plant species with potential to occur within the Action Area. Therefore, the proposed action would not have a substantial adverse effect, either directly or through habitat modifications, on any plant species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS. No impacts would occur.

5.1.2 Special Status Wildlife Impacts

As described in Section 4.1.2, *Special Status Wildlife Species*, nine special status wildlife species have potential to occur within the spray field portion of the Action Area due to the proximity of riparian vegetation communities and the off-site storage pond to the southwest. No direct impacts to suitable habitat for special status wildlife would occur from implementation of the proposed action because all impacts would occur within developed or ruderal areas. The following sections discuss the potential for the proposed action to result in other direct or indirect impacts to these species.

California Red-legged Frog, Coast Range Newt, Southwestern Pond Turtle, and Two-striped Gartersnake

No impacts to suitable habitat for California red-legged frog, Coast Range newt, southwestern pond turtle, and two-striped gartersnake habitat would occur during implementation of the proposed action because impacts at the spray field location and adjacent to the replacement effluent pipeline portion of the Action Area would be limited to existing developed areas and these species do not have potential to occur at the wastewater treatment plant portion of the Action Area. However, because these species can be mobile and the proposed impact areas at the spray field location and replacement effluent pipeline alignment are in close proximity to potentially suitable habitat, these species may be incidentally encountered during construction activities. Potential impacts to these species would be limited to potential collisions with equipment during construction activities at the spray field and replacement effluent pipeline portions of the Action Area. Therefore, impacts to California red-legged frog, southwestern pond turtle, and Coast Range newt would be potentially significant, and implementation of the avoidance and minimization measures outlined in BIO-1 through BIO-3 are recommended.

The purpose of the proposed action is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to the special status species associated with this riparian habitat.

American Badger

Impacts to American badger are unlikely to occur because the majority of the Action Area is comprised of developed areas and has low habitat suitability. Areas suitable for den construction could include undeveloped portions of the Action Area, specifically the ruderal habitat within the spray field portion of the Action Area. Additionally, the species could traverse developed portions of the Action Area. Considering lack of American badger sign and the small size of existing facilities and the small number of individuals that could occupy ruderal areas of the site as compared to the larger regional population, impacts to American badger would be less than significant.

Monterey Big-eared Woodrat

No direct impacts to Monterey big-eared woodrat individuals or habitat would occur because implementation of the proposed action would avoid suitable habitat for this species. The Monterey big-eared woodrat prefers cover and is not expected to occur outside of the riparian community mapped in the northwest corner of the spray field portion of the Action Area, which would be avoided by the proposed action. The purpose of the proposed action is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to the riparian habitat and thus would not indirectly impact Monterey big-eared woodrat.

Special Status and Nesting Birds

Indirect impacts to common bird species as well as the special-status yellow-billed cuckoo, southwestern willow flycatcher, and yellow warbler could occur if these species are nesting within the riparian community within and adjacent to the spray field portion of the Action Area as a result of construction noise that may cause behavioral changes that can result in failure of an established nest. Impacts to common bird species may also occur if active nests are present in the existing oak trees within the wastewater treatment plant portion of the Action Area, which are proposed to be removed, as well as trees adjacent to this area during construction activities. Therefore, impacts to special-status bird species and nesting birds would be potentially significant. and implementation of the avoidance and minimization measures outlined in BIO-4 are recommended.

Recommended Avoidance and Minimization Measures

The following measures are recommended to reduce impacts to special status species to less-than-significant levels.

BIO-1 Worker Environmental Awareness Program Training

Prior to commencement of project activities at the spray field portion of the Action Area, a qualified biologist (i.e., approved by the USFWS) shall conduct a Worker Environmental Awareness Program training for all construction personnel. At a minimum, the training shall include a description of the

biology of the California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake and their habitats; the specific measures that are being implemented to avoid these species; the guidelines that must be followed by all construction personnel to avoid take of these species; and the boundaries within which the proposed action may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions. The qualified biologist shall appoint a designated person (e.g., the crew foreman) who will be responsible for ensuring all crewmembers comply with the guidelines. The training shall be conducted for all new personnel before they can participate in construction activities.

BIO-2 Pre-construction Surveys and Biological Monitoring

A qualified biologist familiar with California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake shall conduct a pre-construction survey of the spray field and replacement effluent pipeline portions of the Action Area within 24 hours prior to the start of construction. Surveys must be conducted immediately prior to ground-disturbing activities to lower the probability of one or more adult or sub-adult frogs moving into or laying eggs within the Action Area after a survey has already been conducted. In addition, a qualified biologist shall be present during initial ground disturbance of the spray field and replacement effluent pipeline portions of the Action Area. If California red-legged frogs (including eggs and tadpoles) are encountered at any time during project activities at the spray field or replacement effluent pipeline locations, construction activities shall cease in the area and the USFWS shall be notified to determine how to proceed. No work may continue at the spray field or replacement effluent pipeline locations until authorized by the USFWS. If individuals of southwestern pond turtle, Coast Range newt, or two-striped gartersnake are discovered during the pre-construction survey or monitoring, these individuals shall be immediately relocated the shortest distance practicable to a location that contains suitable habitat that is not likely to be affected by activities associated with the proposed action.

BIO-3 Construction Site Best Management Practices

The following avoidance and minimization measures shall be implemented during construction activities at the spray field location of the Action Area:

- All vehicles and equipment shall be in good working condition and free of leaks. A spill prevention plan shall be established in the event of a leak or spill.
- The number of access routes, numbers and sizes of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the proposed action. Routes and boundaries shall be clearly demarcated.
- All areas outside of the project perimeter fence shall be designated as Environmentally Sensitive Areas where no construction activities shall occur.
- Work shall be restricted to daylight hours.
- Water shall not be impounded in a manner that may attract California red-legged frog, southwestern pond turtle, Coast Range newt, and two-striped gartersnake.
- Work shall be conducted during dry weather conditions (i.e., days with less than 0.1 inch of predicted rainfall), outside of the wet season (October 15 through April 30).
- Herbicides shall not be used on-site during construction.
- No pets or firearms shall be permitted on-site.

- All food-related trash shall be disposed of in closed containers and removed from the Action Area at least twice per week during the construction period to avoid attracting predators.

BIO-4 Avoidance and Minimization Measures for Nesting Birds

Initial site disturbance in the Action Area shall occur outside the general avian nesting season (February 1 through August 31), if feasible. If avoidance of the nesting season for initial disturbance is not feasible, a qualified biologist shall conduct a preconstruction nesting bird survey to determine the presence/absence, location, and status of any active nests on or adjacent to the Action Area. The extent of the survey buffer area surrounding the Action Area shall be established by the qualified biologist to ensure direct and indirect effects to nesting birds are avoided. Buffer size shall consider the species involved and relevant level of tolerance to adjacent activity, the location of the nest relative to proposed activities, and site conditions that naturally buffer the location, such as vegetation screening and topography. Nesting bird surveys shall be performed no more than 14 days prior to initial site disturbance. In the event active nests are discovered, a suitable buffer shall be established around such active nests and no construction within the buffer shall be allowed until a qualified biologist has determined the nest is no longer active (e.g., the nestlings have fledged and are no longer reliant on the nest). No project activities shall occur within this buffer until the qualified biologist has confirmed breeding/nesting is completed and the young have fledged the nest. Nesting bird surveys are not required for initial site disturbance occurring between September 1 and January 31.

5.1.3 Effects Determination for Federally Listed Species

The proposed action **may affect but is not likely to adversely affect** the federally Threatened California red-legged frog with the incorporation of recommended measures BIO-1 through BIO-3 described above. The proposed action would have **no effect** to federally Threatened yellow-billed cuckoo and federally Threatened southwestern willow flycatcher because the proposed action would not impact potentially suitable nesting habitat for these species and implementation of recommended measure BIO-4 described above would achieve avoidance of indirect impacts to active nests, if present adjacent to the Action Area.

5.2 Sensitive Natural Communities and Critical Habitat Impacts

The proposed action would have a significant effect on biological resources if it would:

b) Have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS.

5.2.1 Riparian Habitat and Sensitive Natural Communities

As discussed in Section 4.2, *Sensitive Natural Communities and Critical Habitat*, the Action Area does not contain sensitive natural communities or critical habitat. Riparian vegetation occurs in the northwest corner of the spray field portion of the Action Area and is associated with the unnamed drainage described in Section 3.1.1, *Watersheds and Drainages*. However, impacts from implementation of the proposed action would occur outside of the riparian community and would therefore avoid direct impacts. In addition, the purpose of the proposed action is to upgrade the HRCSD's existing wastewater treatment process and improve the water quality of wastewater

discharge at the existing HRCSD outfall complies such that it complies with Waste Discharge Order No. R3-2017-0026. As a result, the change in water quality discharged to the unnamed drainage would not result in adverse impacts to riparian habitat. Therefore, the proposed action would not have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS, therefore no impact would occur.

5.2.2 Effects Determination for Critical Habitat

The proposed action does not occur within critical habitat and thus would have **no effect** to federally designated critical habitat.

5.3 Jurisdictional Waters and Wetlands Impacts

The proposed action would have a significant effect on biological resources if it would:

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

All activities associated with the proposed action would occur outside of the riparian habitat and potential jurisdictional feature within the spray field portion of the Action Area. No potentially jurisdictional waters or wetlands are located within the wastewater treatment plant or replacement effluent pipeline portions of the Action Area. Furthermore, the purpose of proposed action is to upgrade HRCSD's existing wastewater treatment process such that the water quality of wastewater discharge at the existing HRCSD outfall complies with Waste Discharge Order No. R3-2017-0026 such that no adverse impacts to water quality would occur. Therefore, no impacts to potentially jurisdictional waters and wetlands would occur.

5.4 Wildlife Movement Impacts

The proposed action would have a significant effect on biological resources if it would:

d) Interfere substantially with the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites.

The Action Area is not located within an ECA (Spencer et al. 2010). No wildlife nursery sites are located within the Action Area. Implementation of the proposed action would occur within the existing HRCSD wastewater treatment plant and spray field locations and would not disturb or remove native vegetation communities. In addition, no components of the proposed action would create new barriers to movement. Therefore, the proposed action would not interfere substantially with the local or regional movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors or impede the use of wildlife nursery sites, and no impacts to wildlife movement or nursery sites as compared to existing conditions.

5.5 Impacts to Resources Protected by Local Policies and Ordinances

The proposed action would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The proposed action would not conflict with local policies or ordinances protecting biological resources because the Action Area is not subject to any such local policies or ordinances, as described in Section 4.5, *Resources Protected by Local Policies and Ordinances*. Therefore, no impact would occur.

5.6 Habitat Conservation Plan Impacts

The proposed action would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan.

The proposed action would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan because the Action Area is not subject to any such plans. Therefore, no impact would occur.

6 Limitations, Assumptions, and Use Reliance

This Biological Resources Assessment has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or portion of the season when positive identification would be expected if present and therefore cannot be considered definitive. The biological surveys are also limited by the environmental conditions present at the time of the surveys. In addition, general biological (or protocol) surveys do not guarantee the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regards to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Action Area include the following:

- United States Army Corps of Engineers (USACE; wetlands and other waters of the United States)
- United States Fish and Wildlife Service (USFWS; federally listed species and migratory birds)
- National Marine Fisheries Service (NMFS; marine wildlife and anadromous fishes)
- Central Coast Regional Water Quality Control Board (waters of the State)
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes; state-listed species; nesting birds; marine resources)

United States Army Corps of Engineers Jurisdiction

The United States Army Corps of Engineers (USACE) is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through the USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 Code of Federal Regulations (CFR) Part 328.3 to include navigable, tidal, and interstate waters and certain impoundments, tributaries, and wetlands. The agencies' most recent regulatory definition of the term was promulgated in January 2023, following failed attempts in prior years that had been frustrated by legal challenges. However, in May 2023, the U.S. Supreme Court issued its ruling in *Sackett v. Environmental Protection Agency*, which invalidated portions of the updated regulations. To address this ruling, in September 2023 the agencies issued a "conforming rule" (88 Federal Register 61964-61969), modifying their definition of "waters of the United States" to comport with the Court's ruling. This definition is described in detail below.

Waters of the U.S.

Current USACE and United States Environmental Protection Agency (USEPA) regulations, reflecting the January 2023 definition as modified by the September 2023 Conforming Rule, define "waters of the United States" as follows (33 CFR 328.3; see also 88 Federal Register 61964-61969):

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;

(3) Tributaries of waters identified in paragraph (1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph 2 or 3 of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds, not identified in paragraphs (1) through (4) of this section that are relatively permanent, standing, or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (1) or (3) of this section.

The definition specifies the following features are not "waters of the United States" even where they otherwise meet the terms of provisions (2) through (5) above:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

The lateral limits of USACE jurisdiction in non-tidal waters is defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3[c][1]). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4[c]). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 Federal Register 41217).

Wetlands

USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[c][1]). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than 50 percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (2018), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands
- **Facultative (FAC).** Occur in wetlands or non-wetlands
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands
- **Obligate Upland (UPL).** Almost never occur in wetlands

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) fall within these categories. Any species not appearing on the USFWS’ list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron),

gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Limitations on Jurisdiction based on Sackett v. USEPA Supreme Court Decision

On May 25, 2023, the Supreme Court issued its decision on the petition from the Sacketts, a family in Idaho that was subject to a compliance order from the USEPA for backfilling their lot near Priest Lake, which the USEPA claimed contained federally-regulated wetlands. The wetlands in question were adjacent to a ditch that fed a creek that ultimately drained into Priest Lake, a navigable water body. The USEPA asserted that the Sacketts had violated the law by filling the wetlands on their property without a permit. The Court's decision addressed controversy over whether, and under what conditions, the CWA has jurisdiction over navigable waters' tributaries or adjacent wetlands. The Supreme Court's decision in *Sackett v. USEPA* provides definitive guidance to the agencies in determining the limits of their Clean Water Act authority. Major tenets of the decision have been incorporated into the agencies' current regulations through the September 2023 Conforming Rule.

The Court decided:

- "Adjacent wetlands" are waters of the United States only if there is a continuous surface connection between the wetland and a navigable or relatively permanent water body, such that it is difficult to determine the boundary between the wetland and the water body. The opinion notes that "temporary interruptions to surface connection may sometimes occur because of phenomena like low tides or dry spells." The agencies addressed this element by defining the term "adjacent" to mean "having a continuous surface connection" in the Conforming Rule.
- The Significant Nexus Standard, introduced by the Court in prior decisions, is not mentioned in the CWA and should not be used. The Court determined the standard applies ecological factors whose use in determining jurisdiction is not supported by the statute. The Conforming Rule removed significant nexus considerations from the definition.
- Although jurisdiction over tributaries was not addressed by the Court, the decision stated "…the [CWA's] use of "waters" encompasses only those relatively permanent, standing or continuously flowing bodies of water forming geographical features that are described in ordinary parlance as streams, oceans, rivers, and lakes." The Conforming Rule makes clear that only relatively permanent tributaries qualify as "waters of the United States."

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to

any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) have jurisdiction over "waters of the State," which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs as well as by the SWRCB for multi-region projects. The process begins when an applicant submits an application to the RWQCB and informs USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. USACE will then determine a "reasonable period of time" for the RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if the RWQCB has not either issued or denied the application for Section 401 Certification, USACE may determine Certification has been waived and issue the requested permit. If a Section 401 Certification is issued, it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not established regulations for field determinations of waters of the state except for wetlands currently. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region and the SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by the RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020), states waters of the United States and waters of the State should be delineated using the standard USACE delineation procedures, taking into

consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

United States Fish and Wildlife Service

The USFWS implements several laws protecting the Nation's fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

The USFWS and NMFS share responsibility for implementing the ESA. Generally, the USFWS implements the ESA for terrestrial and freshwater species, while the NMFS implements the ESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered wildlife species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. "Take" under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law, in regulations at 50 CFR Part 10.13, is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories and that

a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTRA requires USFWS to publish a list of all non-native, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

"Disturb" means "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously-used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

California Department of Fish and Wildlife

The CDFW derives its authority from the California Fish and Game Code (CFGC) and administers several state laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

The California Endangered Species Act (CESA) (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under CESA is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (CFGC Section 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA's protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations 786.9) under the authority of the NPPA, establishing that CESA's permitting procedures would be applied to

plants listed under the NPPA as “rare.” With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

CDFW enforces CFGC Sections 3511, 4700, 5050, and 5515, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan is in place that authorizes take of the fully protected species.

Avian Protection Laws

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. CFGC Section 3503.5 protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. CFGC Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Protection of Lakes and Streambeds

CFGC Section 1602 states it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain a Streambed Alteration Agreement (SAA) from CDFW, which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receiving a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW and a final SAA is executed.

The CDFW has not defined the term “stream” for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of CFGC Section 1602** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry

  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 California Code of Regulations 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations 722[c][21]), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation

- **Guidance documents**, including A Field Guide to Lake and Streambed Alteration Agreements (California Department of Fish and Game 1994) and Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic wildlife including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. Importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

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Appendix B

U.S. Fish and Wildlife Official Information for Planning and Consultation Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
Email Address: FW8VenturaSection7@FWS.Gov

In Reply Refer To: November 03, 2022
Project Code: 2023-0012343
Project Name: Heritage Ranch Water Resource Recovery Facility Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
(805) 644-1766

Project Summary

Project Code: 2023-0012343
Project Name: Heritage Ranch Water Resource Recovery Facility Project
Project Type: Mixed-Use Construction
Project Description: Background:
The HRCSD received a new Waste Discharge Requirements (WDR) from the Central Coast Regional Water Quality Control Board (RWQCB) in September 2017 (Waste Discharge Order No. R3-2017-0026). HRCSD was unable to meet the standards in the WDR for copper, nitrate, and un-ionized ammonia. As a result, HRCSD received a Time Schedule Order from the Central Coast RWQCB in May 2018 (R3-2018-0011), which granted HRCSD five years to make necessary process improvements to achieve compliance with its WDR. HRCSD spent the next few years making process adjustments but remained unable to achieve compliance. In April 2021, a preliminary engineering memorandum determined the existing treatment ponds lacked capacity to treat wastewater to meet discharge requirements. In light of these results, HRCSD determined replacement of its existing treatment process was necessary and requested an additional Time Schedule Order from the Central Coast RWQCB. The updated Time Schedule Order is expected to be adopted in October 2022 and is the final time extension available to HRCSD, which grants it five years to complete construction and commissioning of new treatment processes.

Project Components:
The Heritage Ranch Water Resource Recovery Facility (WRRF) Project (herein referred to as “proposed project” or “project”) includes upgrades to the existing HRCSD water treatment plant and spray field to comply with Waste Discharge Order No. R3-2017-0026. The overall pipeline alignment corridors for influent and effluent from the existing HRCSD wastewater treatment plant location would remain unchanged from existing conditions except for minor modifications at the existing spray field. The proposed project is intended bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo’s General Plan, North County Area Plan, and Heritage Ranch Village Standards.

Construction would consist of demolition, site preparation, grading, building construction, infrastructure installation, paving, site restoration, and architectural coating. In addition, rock breaking/processing might be required. Rock breaking could occur at the influent splitter box and potentially under certain process structures depending on the results of the pending geotechnical investigation. Rock breaking would be

accomplished by an excavator and rock breakers if hard rock is encountered. Rock breaking would potentially occur twice with the first instance less than a week in duration and the latter instance several weeks in duration. Crushed rock would be used as fill on-site.
The project would require demolition of the existing chlorine chemical storage structure, storage shed, fuel tanks shed, and effluent pump station. Approximately one to two truck trips per week would occur during construction to export debris to the San Miguel Garbage Company located at 6625 Benton Road in Paso Robles. In addition, some vegetation and tree removal would be required to accommodate the proposed WRRF, including removal of grasses and several small oaks previously planted by HRCSD staff. On-site utilities such as electrical, sewer, and water lines would likely be demolished or relocated within the project site.
The maximum depth of excavation would be approximately 15 feet. Approximately 4,000 cubic yards of soil would excavated and used on site as fill material.
Project operation would consume approximately 745,000 kilowatt-hours per year, which would represent an increase of approximately 253,000 kWh per year as compared to existing conditions. The existing solar array at the HRCSD wastewater treatment plant would be utilized to supply approximately 300,000 kWh per year of the WRRF's total electricity demand with renewable energy. The backup generator would be tested upon initial start-up and on a monthly basis thereafter with each testing event lasting for approximately 2 to 4 hours.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.72245185,-120.88398094527012,14z

Counties: San Luis Obispo County, California

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Giant Kangaroo Rat *Dipodomys ingens* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6051	Endangered
San Joaquin Kit Fox *Vulpes macrotis mutica* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2873	Endangered

Birds

NAME	STATUS
California Clapper Rail *Rallus longirostris obsoletus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Condor *Gymnogyps californianus* Population: U.S.A. only, except where listed as an experimental population There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8193	Endangered
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Foothill Yellow-legged Frog *Rana boylii* Population: South Coast Distinct Population Segment (South Coast DPS) No critical habitat has been designated for this species.	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
California Jewelflower *Caulanthus californicus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4599	Endangered
Chorro Creek Bog Thistle *Cirsium fontinale var. obispoense* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5991	Endangered
Marsh Sandwort *Arenaria paludicola* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Purple Amole *Chlorogalum purpureum* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5531	Threatened
Spreading Navarretia *Navarretia fossalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1334	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Department of Agriculture
Name: Adam Card
Address: 1530 Monterey Street, Suite D
City: San Luis Obispo
State: CA
Zip: 93401
Email acard@rinconconsultants.com
Phone: 8055470900

Lead Agency Contact Information

Lead Agency: Department of Agriculture

Appendix C

Special Status Species Evaluation Tables

Special Status Species in the Regional Vicinity of the Action Area

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Plants and Lichens				
Abies bracteata bristlecone fir	None/None G2G3/S2S3 1B.3	Perennial evergreen tree. Broad-leafed upland forest, chaparral, lower montane coniferous forest, riparian woodland. Rocky. Elevations: 600-5100ft. (183-1555m.)	None	No suitable soils occur within the Study Area, and no fir trees were observed within the Study Area during the reconnaissance-level survey. This species is not expected to occur.
Agrostis hooveri Hoover's bent grass	None/None G2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, closed-cone coniferous forest, valley and foothill grassland. Sandy (usually). Elevations: 20-2000ft. (6-610m.) Blooms Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Amsinckia douglasiana Douglas' fiddleneck	None/None G4/S4 4.2	Annual herb. Cismontane woodland, valley and foothill grassland. Dry. Elevations: 0-6400ft. (0-1950m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Antirrhinum ovatum oval-leaved snapdragon	None/None G3/S3 4.2	Annual herb. Chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Alkaline (often). Elevations: 655-3280ft. (200-1000m.) Blooms May-Nov.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Arctostaphylos cruzensis Arroyo de la Cruz manzanita	None/None G1G2/S1S2 1B.2	Perennial evergreen shrub. Broad-leafed upland forest, chaparral, closed-cone coniferous forest, coastal bluff scrub, coastal scrub, valley and foothill grassland. Sandy. Elevations: 195-1015ft. (60-310m.) Blooms Dec-Mar.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Arctostaphylos hooveri Hoover's manzanita	None/None G3/S3 4.3	Perennial evergreen shrub. Broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Rocky sites. Elevations: 1575-3395ft. (480-1035m.) Blooms Feb-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Arctostaphylos luciana Santa Lucia manzanita	None/None G2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland. Shale. Elevations: 1150-2790ft. (350-850m.) Blooms Dec-Mar.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Arctostaphylos obispoensis Bishop manzanita	None/None G3/S3 4.3	Perennial evergreen shrub. Chaparral, cismontane woodland, closed-cone coniferous forest. Rocky, serpentinite. Elevations: 490-3295ft. (150-1005m.) Blooms Feb-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Arenaria paludicola marsh sandwort	FE/SCE G1/S1 1B.1	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560ft. (3-170m.) Blooms May-Aug.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Aristocapsa insignis Indian Valley spineflower	None/None G1/S1 1B.2	Annual herb. Cismontane woodland. Sandy substrates. Elevations: 985-1970ft. (300-600m.) Blooms May-Sep.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Aspidotis carlotta-halliae Carlotta Hall's lace fern	None/None G3/S3 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland. Serpentinite (usually). Elevations: 330-4595ft. (100-1400m.) Blooms Jan-Dec.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Astragalus macrodon Salinas milk-vetch	None/None G4/S4 4.3	Perennial herb. Chaparral, cismontane woodland, valley and foothill grassland. Sandstone (sometimes), serpentinite (sometimes), shale (sometimes). Elevations: 820-3115ft. (250-950m.) Blooms Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Astragalus nuttallii var. *nuttallii* ocean bluff milk-vetch	None/None G4T4/S4 4.2	Perennial herb. Coastal bluff scrub, coastal dunes. Elevations: 10-395ft. (3-120m.) Blooms Jan-Nov.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Baccharis plummerae ssp. *glabrata* San Simeon baccharis	None/None G3T1/S1 1B.2	Perennial deciduous shrub. Coastal scrub. In open shrub-grassland associations. Elevations: 165-1575ft. (50-480m.) Blooms Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calochortus clavatus var. *clavatus* club-haired mariposa lily	None/None G4T3/S3 4.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Clay, Rocky, serpentinite (usually). Elevations: 100-4265ft. (30-1300m.) Blooms (Mar)May-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calochortus fimbriatus late-flowered mariposa-lily	None/None G3/S3 1B.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, riparian woodland. Serpentinite (sometimes). Elevations: 900-6250ft. (275-1905m.) Blooms Jun-Aug.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calochortus obispoensis San Luis mariposa-lily	None/None G2/S2 1B.2	Perennial bulbiferous herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Serpentinite (often). Elevations: 165-2395ft. (50-730m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calochortus simulans La Panza mariposa-lily	None/None G2/S2 1B.3	Perennial bulbiferous herb. Chaparral, cismontane woodland, lower montane coniferous forest, valley and foothill grassland. Granitic (often), sandy, serpentinite (sometimes). Elevations: 1065-3775ft. (325-1150m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calycadenia villosa dwarf calycadenia	None/None G3/S3 1B.1	Annual herb. Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland. Rocky. Elevations: 785-4430ft. (240-1350m.) Blooms May-Oct.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Calystegia subacaulis ssp. *episcopalis* Cambria morning-glory	None/None G3T2?/S2? 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal prairie, valley and foothill grassland. Clay (usually). Elevations: 100-1640ft. (30-500m.) Blooms (Mar)Apr-Jun(Jul).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Camissoniopsis hardhamiae Hardham's evening-primrose	None/None G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland. Burned areas (sometimes), carbonate, disturbed areas (sometimes), sandy. Elevations: 460-3100ft. (140-945m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Carex obispoensis San Luis Obispo sedge	None/None G3?/S3? 1B.2	Perennial cespitose herb. Chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Usually in transition zone on sand, clay, serpentine, or gabbro. In seeps. Elevations: 35-2690ft. (10-820m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Castilleja densiflora var. *obispoensis* San Luis Obispo owl's-clover	None/None G5T2/S2 1B.2	Annual herb (hemiparasitic). Meadows and seeps, valley and foothill grassland. Serpentinite (sometimes). Elevations: 35-1410ft. (10-430m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Caulanthus californicus California jewelflower	FE/SCE G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland, valley and foothill grassland. Sandy. Elevations: 200-3280ft. (61-1000m.) Blooms Feb-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Caulanthus lemmonii Lemmon's jewelflower	None/None G3/S3 1B.2	Annual herb. Pinyon and juniper woodland, valley and foothill grassland. Elevations: 260-5185ft. (80-1580m.) Blooms Feb-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Ceanothus cuneatus var. *fascicularis* Lompoc ceanothus	None/None G5T4/S4 4.2	Perennial evergreen shrub. Chaparral. Sandy soils. Elevations: 15-1310ft. (5-400m.) Blooms Feb-Apr.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Chlorogalum purpureum var. *purpureum* Santa Lucia purple amole	FT/None G2T2/S2 1B.1	Perennial bulbiferous herb. Chaparral, cismontane woodland, valley and foothill grassland. Clay, gravelly. Elevations: 675-1265ft. (205-385m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Chorizanthe douglasii Douglas' spineflower	None/None G4/S4 4.3	Annual herb. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, valley and foothill grassland. Gravelly (sometimes), sandy (sometimes). Elevations: 180-5250ft. (55-1600m.) Blooms Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Chorizanthe palmeri Palmer's spineflower	None/None G4/S4 4.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Rocky, serpentinite. Elevations: 180-3100ft. (55-945m.) Blooms Apr-Aug.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Chorizanthe rectispina straight-awned spineflower	None/None G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Often on granite in chaparral. Elevations: 280-3395ft. (85-1035m.) Blooms Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Cirsium fontinale var. *obispoense* Chorro Creek bog thistle	FE/SCE G2T2/S2 1B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Drainages, seeps, serpentinite. Elevations: 115-1265ft. (35-385m.) Blooms Feb-Jul(Aug-Sep).	None	No suitable serpentine soils are present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Cirsium occidentale var. *compactum* compact cobwebby thistle	None/None G3G4T2/S2 1B.2	Perennial herb. Chaparral, coastal dunes, coastal prairie, coastal scrub. On dunes and on clay in chaparral; also in grassland. Elevations: 15-490ft. (5-150m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Clarkia jolonensis Jolon clarkia	None/None G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Elevations: 65-2165ft. (20-660m.) Blooms Apr-Jun.	None	This species is not known to occur in San Luis Obispo County.
Collinsia antonina San Antonio collinsia	None/None G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland. Shale substrates. Elevations: 920-1200ft. (280-365m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Delphinium gypsophilum ssp. *parviflorum* small-flowered gypsum-loving larkspur	None/None G4T2T3Q/S2S3 3.2	Perennial herb. Cismontane woodland, valley and foothill grassland. On clayey soil. Elevations: 625-1150ft. (190-350m.) Blooms (Mar)Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Delphinium parryi ssp. *eastwoodiae* Eastwood's larkspur	None/None G4T2/S2 1B.2	Perennial herb. Chaparral, valley and foothill grassland. Serpentine. Openings. Elevations: 245-1640ft. (75-500m.) Blooms (Feb)Mar-Apr.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Delphinium umbraculorum umbrella larkspur	None/None G3/S3 1B.3	Perennial herb. Chaparral, cismontane woodland. Mesic sites. Elevations: 1310-5250ft. (400-1600m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	None/None G3T2/S2 1B.1	Perennial herb. Chaparral, coastal bluff scrub, coastal scrub, valley and foothill grassland. Open, rocky slopes; often in shallow clays over serpentine or in rocky areas with little soil. Elevations: 15-1475ft. (5-450m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Entosthodon kochii Koch's cord moss	None/None G1/S1 1B.3	Moss. Cismontane woodland. Moss growing on soil on riverbanks. Elevations: 590-3280ft. (180-1000m.)	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Eriastrum luteum yellow-flowered eriastrum	None/None G2/S2 1B.2	Annual herb. Broad-leafed upland forest, chaparral, cismontane woodland. On bare sandy decomposed granite slopes. Elevations: 950-3280ft. (290-1000m.) Blooms May-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Erigeron sanctarum saints' daisy	None/None G3/S3 4.2	Perennial rhizomatous herb. Chaparral, cismontane woodland, coastal scrub. Elevations: 245-1150ft. (75-350m.) Blooms Mar-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Eriogonum elegans elegant wild buckwheat	None/None G4G5/S4S5 4.3	Annual herb. Cismontane woodland, valley and foothill grassland. Usually in sandy or gravelly substrates; often in washes, sometimes roadsides. Elevations: 655-5005ft. (200-1525m.) Blooms May-Nov.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Eriogonum nudum var. *indictum* protruding buckwheat	None/None G5T4/S4 4.2	Perennial herb. Chaparral, chenopod scrub, cismontane woodland. Barren slopes; clay, serpentine. Elevations: 490-4800ft. (150-1463m.) Blooms (Apr) May-Oct (Dec).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Eriophyllum jepsonii Jepson's woolly sunflower	None/None G3/S3 4.3	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sometimes on serpentine. Elevations: 655-3365ft. (200-1025m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	None/None G5T1/S1 1B.1	Annual/perennial herb. Vernal pools. Alkaline depressions, vernal pools, roadside ditches and other wet places near the coast. Elevations: 10-150ft. (3-45m.) Blooms (Jun)Jul(Aug).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Erythranthe hardhamiae Santa Lucia monkeyflower	None/None G1/S1 1B.1	Annual herb. Chaparral. Sandy soils in openings, sand-filled crevices of sandstone outcrops, sometimes serpentinite. Elevations: 985-2395ft. (300-730m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Eschscholzia hypecoides San Benito poppy	None/None G4/S4 4.3	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Serpentine clay. Elevations: 655-4920ft. (200-1500m.) Blooms Mar-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Fritillaria ojaiensis Ojai fritillary	None/None G3/S3 1B.2	Perennial bulbiferous herb. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. Rocky sites. Sometimes on serpentine; sometimes along roadsides. Elevations: 740-3275ft. (225-998m.) Blooms Feb-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Galium californicum ssp. *luciense* Cone Peak bedstraw	None/None G5T3/S3 1B.3	Perennial herb. Broadleafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest. In forest duff or gravelly talus of pine and oak forest, in partial shade. Elevations: 1310-5005ft. (400-1525m.) Blooms Mar-Sep.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Galium hardhamiae Hardham's bedstraw	None/None G3/S3 1B.3	Perennial herb. Chaparral, closed-cone coniferous forest. On serpentine with *Cupressus sargentii.* Elevations: 1295-3200ft. (395-975m.) Blooms Apr-Oct.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Gilia latiflora ssp. *cuyamensis* Cuyama gilia	None/None G5?T4/S4 4.3	Annual herb. Pinyon and juniper woodland. Sandy flats, lower river valleys. Elevations: 1950-6560ft. (595-2000m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Gilia tenuiflora ssp. *amplifaucalis* trumpet-throated gilia	None/None G3G4T3/S3 4.3	Annual herb. Cismontane woodland, valley and foothill grassland. Sandy soils. Elevations: 1280-2955ft. (390-900m.) Blooms Mar-Apr.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Hesperevax caulescens hogwallow starfish	None/None G3/S3 4.2	Annual herb. Valley and foothill grassland, vernal pools. Clay soils; mesic sites. Elevations: 0-1655ft. (0-505m.) Blooms Mar-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Horkelia cuneata var. *puberula* mesa horkelia	None/None G4T1/S1 1B.1	Perennial herb. Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. Elevations: 230-2660ft. (70-810m.) Blooms Feb-Jul(Sep).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Horkelia cuneata var. *sericea* Kellogg's horkelia	None/None G4T1?/S1? 1B.1	Perennial herb. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. Old dunes, coastal sandhills; openings. Sandy or gravelly soils. Elevations: 35-655ft. (10-200m.) Blooms Apr-Sep.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Horkelia yadonii Santa Lucia horkelia	None/None G3/S3 4.2	Perennial rhizomatous herb. Broadleafed upland forest, chaparral, cismontane woodland, meadows and seeps, riparian woodland. Sandy meadow edges, seasonal streambeds. Granitic soils. Elevations: 985-6235ft. (300-1900m.) Blooms Apr-Jul.	None	Although potentially suitable habitat is present within the riparian area within the northwest corner of the spray field portion of the Study Area, the species is perennial, and no members of the genus *Horkelia* were observed within the Study Area. Therefore, the species is not expected to occur.
Hosackia gracilis harlequin lotus	None/None G3G4/S3 4.2	Perennial rhizomatous herb. Broadleafed upland forest, cismontane woodland, closed-cone coniferous forest, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, meadows and seeps, north coast coniferous forest, valley and foothill grass.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Juncus luciensis Santa Lucia dwarf rush	None/None G3/S3 1B.2	Annual herb. Chaparral, great basin scrub, lower montane coniferous forest, meadows and seeps, vernal pools. Vernal pools, ephemeral drainages, wet meadow habitats and streamsides. Elevations: 985-6695ft. (300-2040m.) Blooms Apr-Jul.	Moderate	Riparian habitat at the spray field portion of the Study Area may provide suitable habitat for this species.
Lasthenia californica ssp. *macrantha* perennial goldfields	None/None G3T2/S2 1B.2	Perennial herb. Coastal bluff scrub, coastal dunes, coastal scrub. Elevations: 15-1705ft. (5-520m.) Blooms Jan-Nov.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Lasthenia leptalea Salinas Valley goldfields	None/None G3/S3 4.3	Annual herb. Cismontane woodland, valley and foothill grassland. Elevations: 195-3495ft. (60-1065m.) Blooms Feb-Apr.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Layia heterotricha pale-yellow layia	None/None G2/S2 1B.1	Annual herb. Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Alkaline or clay soils; open areas. Elevations: 985-5595ft. (300-1705m.) Blooms Mar-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Layia jonesii Jones' layia	None/None G2/S2 1B.2	Annual herb. Chaparral, valley and foothill grassland. Clay soils and serpentine outcrops. Elevations: 15-1310ft. (5-400m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Lepidium jaredii ssp. *jaredii* Jared's pepper-grass	None/None G2G3T1T2/S1S2 1B.2	Annual herb. Valley and foothill grassland. Alkali flats and sinks. Sandy, alkaline, sometimes adobe soils. Elevations: 1100-3295ft. (335-1005m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Lessingia tenuis spring lessingia	None/None G4/S4 4.3	Annual herb. Chaparral, cismontane woodland, lower montane coniferous forest. Openings. Elevations: 985-7055ft. (300-2150m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Lomatium parvifolium small-leaved lomatium	None/None G3/S3 4.2	Perennial herb. Chaparral, closed-cone coniferous forest, coastal scrub, riparian woodland. On serpentine. Elevations: 65-2295ft. (20-700m.) Blooms Jan-Jun.	None	No suitable serpentine soils are present within the Study Area. This species is not expected to occur.
Malacothamnus abbottii Abbott's bush-mallow	None/None G1/S1 1B.1	Perennial deciduous shrub. Riparian scrub. Among willows near rivers and along roadsides. Elevations: 445-1610ft. (135-490m.) Blooms May-Oct.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Malacothamnus davidsonii Davidson's bush-mallow	None/None G2/S2 1B.2	Perennial deciduous shrub. Chaparral, cismontane woodland, coastal scrub, riparian woodland. Sandy washes. Elevations: 605-3740ft. (185-1140m.) Blooms Jun-Jan.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Malacothamnus jonesii Jones' bush-mallow	None/None G4/S4 4.3	Perennial deciduous shrub. Chaparral, cismontane woodland. Elevations: 525-3525ft. (160-1075m.) Blooms (Mar)Apr-Oct.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Malacothamnus palmeri var. *palmeri* Santa Lucia bush-mallow	None/None G3T2Q/S2 1B.2	Perennial deciduous shrub. Chaparral. Dry rocky slopes, mostly near summits, but occasionally extending down canyons to the sea. Elevations: 195-1180ft. (60-360m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Meconella oregana Oregon meconella	None/None G2G3/S2 1B.1	Annual herb. Coastal prairie, coastal scrub. Open, moist places. Elevations: 820-2035ft. (250-620m.) Blooms Mar-Apr.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Micropus amphibolus Mt. Diablo cottonweed	None/None G3G4/S3S4 3.2	Annual herb. Broad-leafed upland forest, chaparral, cismontane woodland, valley and foothill grassland. Bare, grassy or rocky slopes. Elevations: 150-2705ft. (45-825m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Monardella palmeri Palmer's monardella	None/None G2/S2 1B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland. On serpentine, often found associated with Sargent cypress forests. Elevations: 655-2625ft. (200-800m.) Blooms Jun-Aug.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Monolopia gracilens woodland woollythreads	None/None G3/S3 1B.2	Annual herb. Broad-leafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns but may have only weak affinity to serpentine. Elevations: 330-3935ft. (100-1200m.) Blooms (Feb)Mar-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Navarretia fossalis spreading navarretia	FT/None G2/S2 1B.1	Annual herb. Chenopod scrub, marshes and swamps, playas, vernal pools. San Diego hardpan and San Diego claypan vernal pools; in swales and vernal pools, often surrounded by other habitat types. Elevations: 100-2150ft. (30-655m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Navarretia nigelliformis ssp. *radians* shining navarretia	None/None G4T2/S2 1B.2	Annual herb. Cismontane woodland, valley and foothill grassland, vernal pools. Apparently in grassland, and not necessarily in vernal pools. Elevations: 215-3280ft. (65-1000m.) Blooms (Mar)Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Navarretia prostrata prostrate vernal pool navarretia	None/None G2/S2 1B.2	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. Alkaline soils in grassland, or in vernal pools. Mesic, alkaline sites. Elevations: 10-3970ft. (3-1210m.) Blooms Apr-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Nemacladus secundiflorus var. *robbinsii* Robbins' nemacladus	None/None G3T2/S2 1B.2	Annual herb. Chaparral, valley and foothill grassland. Dry, sandy or gravelly slopes. Openings. Elevations: 1150-5580ft. (350-1700m.) Blooms Apr-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Perideridia gairdneri ssp. *gairdneri* Gairdner's yampah	None/None G5T3T4/S3S4 4.2	Perennial herb. Broad-leafed upland forest, chaparral, coastal prairie, valley and foothill grassland, vernal pools. Adobe flats or grasslands, wet meadows and vernal pools, under Pinus radiata along the coast; mesic sites. Elevations: 0-2000ft. (0-610m.) Blooms Jun-Oct.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Pinus radiata Monterey pine	None/None G1/S1 1B.1	Perennial evergreen tree. Cismontane woodland, closed-cone coniferous forest. Dry bluffs and slopes. Elevations: 80-605ft. (25-185m.)	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Piperia leptopetala narrow-petaled rein orchid	None/None G4/S4 4.3	Perennial herb. Cismontane woodland, lower montane coniferous forest, upper montane coniferous forest. Elevations: 1245-7300ft. (380-2225m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Plagiobothrys uncinatus hooked popcornflower	None/None G2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Sandstone outcrops and canyon sides; often in burned or disturbed areas. Elevations: 985-2495ft. (300-760m.) Blooms Apr-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Sanicula hoffmannii Hoffmann's sanicle	None/None G3/S3 4.3	Perennial herb. Broad-leafed upland forest, chaparral, cismontane woodland, coastal bluff scrub, coastal scrub, lower montane coniferous forest. Cool slopes in deep soil, often in moist shaded serpentine soils, or in clay soils. Elevations: 100-985ft. (30-300m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Senecio aphanactis chaparral ragwort	None/None G3/S2 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub. Drying alkaline flats. Elevations: 50-2625ft. (15-800m.) Blooms Jan-Apr(May).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Senecio astephanus San Gabriel ragwort	None/None G3/S3 4.3	Perennial herb. Chaparral, coastal bluff scrub. Rocky slopes. Elevations: 1310-4920ft. (400-1500m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Sidalcea hickmanii ssp. *hickmanii* Hickman's checkerbloom	None/None G3T2/S2 1B.3	Perennial herb. Chaparral, cismontane woodland, coastal bluff scrub. Grassy openings in chaparral, and on dry ridges. Elevations: 1100-4005ft. (335-1220m.) Blooms May-Jul.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Stebbinsoseris decipiens Santa Cruz microseris	None/None G2/S2 1B.2	Annual herb. Broad-leafed upland forest, chaparral, closed-cone coniferous forest, coastal prairie, coastal scrub, valley and foothill grassland. Open areas in loose or disturbed soil, usually derived from sandstone, shale or serpentine, on seaward slopes. Elevations: 35-1640ft. (10-500m.) Blooms Apr-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Streptanthus albidus ssp. *peramoenus* most beautiful jewelflower	None/None G2T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, valley and foothill grassland. Serpentine outcrops, on ridges and slopes. Elevations: 310-3280ft. (95-1000m.) Blooms (Mar)Apr-Sep(Oct).	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Stylocline masonii Mason's neststraw	None/None G1/S1 1B.1	Annual herb. Chenopod scrub, pinyon and juniper woodland. Sandy washes. Elevations: 330-3935ft. (100-1200m.) Blooms Mar-May.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Sulcaria spiralifera twisted horsehair lichen	None/None G3G4/S2 1B.2	Fruticose lichen (epiphytic). Coastal dunes, north coast coniferous forest. Usually on conifers. Elevations: 0-295ft. (0-90m.)	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Systenotheca vortriedei Vortriede's spineflower	None/None G3/S3 4.3	Annual herb. Chaparral, cismontane woodland. Sandy or serpentine soils. Elevations: 1640-5250ft. (500-1600m.) Blooms May-Sep.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Triteleia ixioides ssp. *cookii* Cook's triteleia	None/None G5T2T3/S2S3 1B.3	Perennial bulbiferous herb. Cismontane woodland, closed-cone coniferous forest. Streamsides, wet ravines; on serpentine and in serpentine seeps. Sometimes near cypresses. Elevations: 490-2295ft. (150-700m.) Blooms May-Jun.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Invertebrates				
Bombus caliginosus obscure bumble bee	None/None G2G3/S1S2	Coastal areas from Santa Barbara County to north to Washington state. Food plant genera include *Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.*	None	The site is highly developed, and no suitable habitat is present within the Study Area. This species is not expected to occur.
Bombus crotchii Crotch bumble bee	None/None G2/S1S2	Coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	None	The site is highly developed, and no suitable habitat is present within the Study Area. This species is not expected to occur.
Branchinecta lynchi vernal pool fairy shrimp	FT/None G3/S3	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Danaus plexippus pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2S3	Roost in wind-protected tree groves along the coast from northern Mendocino to Baja California, Mexico.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Fish				
Eucyclogobius newberryi tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Lavinia exilicauda harengus Monterey hitch	None/None G4T2T4/S3 SSC	Wide variety of habitats throughout the Pajaro and Salinas river watersheds. Often found in lowland areas with large pools or in small reservoirs.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	FT/None G5T2Q/S2	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

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Amphibians				
Ambystoma californiense California tiger salamander	FT/ST G2G3/S2S3 WL	Sonoma County east through Central Valley; south to Tulare County; and from San Francisco Bay south to Santa Barbara County. Often found in annual grassland habitat or in grassy understory of valley-foothill hardwood habitat.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Batrachoseps minor lesser slender salamander	None/None G1/S1 SSC	South Santa Lucia Mountains in tanbark oak, coast live oak, blue oak, sycamore and laurel. Shaded slopes with abundant leaf litter.	None	The Study Area is outside of the geographic range of this species. This species is not expected to occur.
Rana boylii pop. 6 foothill yellow-legged frog - south coast distinct population segment	Proposed Endangered/SE G3TNRQ/S1	Southern Coast Ranges from Monterey Bay south through San Gabriel Mountains; west of the Salinas River in Monterey Co, south through Transverse Ranges, and east through San Gabriel Mountains. Historically may have ranged to Baja California. Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying and at least 15 weeks to attain metamorphosis.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Rana draytonii California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species. Potentially suitable habitat also occurs within a storage pond located approximately 160 feet southwest of the spray field portion of the Study Area. If present, this species could also occur incidentally within the developed portions of the spray field portion of the Study Area as they move through the area.
Spea hammondii western spadefoot	None/None G2G3/S3 SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Taricha torosa Coast Range newt	None/None G4/S4 SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species. The species could also occur incidentally within the developed portions of the spray field portion of the Study Area as they move through the area.

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Reptiles				
Anniella pulchra Northern California legless lizard	None/None G3/S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Actinemys pallida southwestern pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species. This species is also known to occur within a storage pond located approximately 160 feet southwest of the spray field portion of the Study Area. The species could also occur incidentally within the developed portions of the spray field portion of the Study Area as they move through the area.
Masticophis flagellum ruddocki San Joaquin coachwhip	None/None G5T2T3/S2? SSC	Open, dry habitats with little or no tree cover. Found in valley grassland and saltbush scrub in the San Joaquin Valley. Needs mammal burrows for refuge and oviposition sites.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Phrynosoma blainvillii coast horned lizard	None/None G3G4/S3S4 SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Thamnophis hammondii two-striped gartersnake	None/None G4/S3S4 SSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Birds				
Agelaius tricolor tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Ammodramus savannarum grasshopper sparrow	None/None G5/S3 SSC	Dense grasslands on rolling hills, lowland plains, in valleys and on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs and scattered shrubs. Loosely colonial when nesting.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Aquila chrysaetos golden eagle	None/None G5/S3 FP and WL	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.	Low	No suitable nesting or foraging habitat occurs within the Study Area; however, the species may be incidentally encountered as it flies over the Study Area.
Athene cunicularia burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Buteo regalis ferruginous hawk	None/None G4/S3S4 WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Coccyzus americanus yellow-billed cuckoo	FT/SE G5T2T3/S1	Scattered populations in valley foothill and desert riparian habitats throughout California.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Empidonax traillii extimus southwestern willow flycatcher	FE/SE G5T2/S1	Inhabits riparian habitats throughout southern California.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Eremophila alpestris actia California horned lark	None/None G5T4Q/S4 WL	Coastal regions, chiefly from Sonoma County to San Diego County. Also main part of San Joaquin Valley and east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Falco mexicanus prairie falcon	None/None G5/S4 WL	Inhabits dry, open terrain, either level or hilly. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Gymnogyps californianus California condor	FE/SE G1/S1 FP	Open savannah, grassland, and foothill chaparral habitats in mountain ranges throughout Central and Southern California.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Haliaeetus leucocephalus bald eagle	FD/SE G5/S3 FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	Low	No suitable nesting or foraging habitat occurs within the Study Area; however, the species may be incidentally encountered as it flies over the Study Area.
Rallus longirostris obsoletus California clapper rail	FE/SE G5T1/S1 FP	Tidal and brackish marshes.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Setophaga petechia yellow warbler	None/None G5/S3S4 SSC	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Vireo bellii pusillus least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	None	No suitable early successional riparian habitat is present within the Study Area. This species is not expected to occur.
Mammals				
Antrozous pallidus pallid bat	None/None G4/S3 SSC	Found in a variety of habitats including deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts in crevices of rock outcrops, caves, mine tunnels, buildings, bridges, and hollows of live and dead trees which must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Corynorhinus townsendii Townsend's big-eared bat	None/None G4/S2 SSC	Occurs throughout California in a wide variety of habitats. Most common in mesic sites, typically coniferous or deciduous forests. Roosts in the open, hanging from walls & ceilings in caves, lava tubes, bridges, and buildings. This species is extremely sensitive to human disturbance.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.
Dipodomys ingens giant kangaroo rat	FE/SE G1G2/S1S2	Found in annual grasslands on the western side of the San Joaquin Valley. Occasionally occurs in alkali scrub. Prefers areas with sparse cover, can be found in areas of cattle grazing. Requires level or slightly sloping terrain and friable soils for burrowing.	None	No suitable habitat is present within the Study Area. The Study Area is well outside the geographic range of the species. This species is not expected to occur.
Neotoma macrotis luciana Monterey big-eared (dusky-footed) woodrat	None/None G5T3/S3 SSC	Forest habitats of moderate canopy and moderate to dense understory. Also, in chaparral habitats. Nests constructed of grass, leaves, sticks, feathers, etc. Population may be limited by availability of nest materials.	Moderate	Riparian habitat in the northwest corner of the spray field portion of the Study Area may provide suitable habitat for this species.
Perognathus inornatus psammophilus Salinas pocket mouse	None/None G2G3T2?/S1 SSC	Annual grassland and desert shrub communities in the Salinas Valley. Fine-textured, sandy, friable soils. Burrows for cover and nesting.	None	No suitable habitat is present within the Study Area. This species is not expected to occur.

Scientific Name Common Name	Status Fed/State ESA CDFW or CRPR	Habitat Requirements	Potential to Occur	Rationale
Taxidea taxus American badger	None/None G5/S3 SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Moderate	Because this species is highly mobile and can be adapted to disturbed areas, this species could occur throughout the Study Area. However, this species would only be expected to construct dens within undeveloped portions of the Study Area. No dens were observed during the reconnaissance survey.
Vulpes macrotis mutica San Joaquin kit fox	FE/ST G4T2/S2	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	None	No suitable habitat is present within the Study Area, and the Study Area is outside of the geographic range of the species. This species is not expected to occur.
Sensitive Natural Communities				
Monterey Pine Forest	None/None G1/S1.1		None	This natural community does not occur within the Study Area.
Valley Oak Woodland	None/None G3/S2.1		None	This natural community does not occur within the Study Area.

Status (Federal/State)

FE = Federal Endangered
FT = Federal Threatened
FPE = Federal Proposed Endangered
FPT = Federal Proposed Threatened
FD = Federal Delisted
FC = Federal Candidate
FP = CDFW Fully Protected
SE = State Endangered
ST = State Threatened
SCE = State Candidate Endangered
SCT = State Candidate Threatened
SR = State Rare
SD = State Delisted
SSC = CDFW Species of Special Concern
WL = CDFW Watch List

CRPR (CNPS California Rare Plant Rank)

1A = Presumed extirpated in California, and rare or extinct elsewhere
1B = Rare, Threatened, or Endangered in California and elsewhere
2A = Presumed extirpated in California, but common elsewhere
2B = Rare, Threatened, or Endangered in California, but more common elsewhere
3 = Need more information (Review List)
4 = Limited Distribution (Watch List)

CRPR Threat Code Extension

.1 = Seriously endangered in California (>80% of occurrences threatened/high degree and immediacy of threat)
.2 = Moderately threatened in California (20-80% of occurrences threatened/moderate degree and immediacy of threat)
.3 = Not very endangered in California (<20% of occurrences threatened/low degree and immediacy of threat)

Other Statuses

G1 or S1	Critically Imperiled Globally or Subnationally (state)
G2 or S2	Imperiled Globally or Subnationally (state)
G3 or S3	Vulnerable to extirpation or extinction Globally or Subnationally (state)
G4/5 or S4/5	Apparently secure, common and abundant
GH or SH	Possibly Extirpated – missing; known from only historical occurrences but still some hope of rediscovery

Additional notations may be provided as follows

T – Intraspecific Taxon (subspecies, varieties, and other designations below the level of species)
Q – Questionable taxonomy that may reduce conservation priority
? – Inexact numeric rank

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Appendix D

Floral and Faunal Compendium

Plant Species Observed within the Action Area on October 6, 2022 and September 21, 2023

Scientific Name	Common Name	Status	Native or Introduced
Shrubs and Trees			
Salix lasiolepis	Arroyo willow	None	Native
Quercus agrifolia	Coast live oak	None	Native
Baccharis pilularis	Coyote brush	None	Native
Herbs			
Erodium cicutarium	Red-stemmed filaree	None	Introduced
Lessingia glandulifera	Vinegar weed	None	Native
Brassica nigra	Black mustard	None	Introduced
Grasses			
Avena fatua	Common wild oat	None	Introduced

Wildlife Species Observed within the Action Area on October 6, 2022 and September 21, 2023

Scientific Name	Common Name	Status	Native or Introduced
Birds			
Calypte anna	Anna's hummingbird	None	Native
Cathartes aura	Turkey vulture	None	Native
Aphelocoma californica	Western scrub jay	None	Native
Streptopelia decaocto	Eurasian-collared dove	None	Native
Reptiles			
Sceloperus occidentalis	Western fence lizard	None	Native
Mammals			
Otospermophilus beecheyi	California ground squirrel	None	Native
Odocoileus hemionus	Mule deer	None	Native

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Appendix E

Site Photographs

Photograph 1. Photograph of the existing wastewater treatment plant, facing southwest. October 6, 2022.

Photograph 2. Photograph of the existing wastewater treatment plant, facing northwest. October 6, 2022.

Photograph 3. Photograph of the existing sand filters at the spray field, facing south. October 6, 2022.

Photograph 4. Photograph of the de-chorination process replacement location at the spray field, facing west. October 6, 2022.

Photograph 5. Photograph of Heritage Road at the replacement effluent pipeline portion of the Action Area, facing north. September 21, 2023.

Photograph 6. Photograph of Gateway Drive at the replacement effluent pipeline portion of the Action Area, facing east. September 21, 2023.

Photograph 7. Photograph of the unnamed drainage west of Gateway Drive and Pintail Avenue (outside of the replacement effluent pipeline portion of the Action Area), facing southwest. September 21, 2023.

Photograph 8. Photograph of the unnamed drainage near the intersection of Heritage Road and Gateway Drive (outside of the replacement effluent pipeline portion of the Action Area), facing north. September 21, 2023.

Appendix C

Historic Properties Inventory Report

** This document contains sensitive and confidential information concerning archaeological sites. This report is confidential and is not available for public distribution. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).*

Appendix D

Energy Calculations

HRCSD WRRF Project - WRRF and Spray Field

Last Updated: 9/29/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588		HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Air Compressors	2	8	37	0.48	Demolition Phase	10,871
Tractors/Loaders/Backhoes	2	8	84	0.37	Demolition Phase	19,024
Dumpers/Tenders	2	8	16	0.38	Demolition Phase	3,721
Tractors/Loaders/Backhoes	4	8	84	0.37	Site Preparation Phase	5,143
Plate Compactors	2	8	8	0.43	Site Preparation Phase	285
Rubber Tired Dozers	2	8	367	0.4	Site Preparation Phase	10,926
Excavators	2	8	158	0.38	Site Preparation Phase	4,469
Off-Highway Trucks	4	8	376	0.38	Site Preparation Phase	21,268
Rollers	2	8	36	0.38	Site Preparation Phase	1,132
Rough Terrain Forklifts	2	8	96	0.4	Site Preparation Phase	3,177
Scrapers	1	8	423	0.48	Site Preparation Phase	7,556
Trenchers	2	8	40	0.5	Site Preparation Phase	1,655
Plate Compactors	2	8	8	0.43	Grading Phase	210
Pumps	4	8	11	0.74	Grading Phase	995
Rubber Tired Dozers	2	8	367	0.4	Grading Phase	8,070
Tractors/Loaders/Backhoes	2	8	84	0.37	Grading Phase	1,899
Cement and Mortar Mixers	2	8	10	0.56	Building Construction/Infrastructure Installation Phase	2,975
Air Compressors	4	8	37	0.48	Building Construction/Infrastructure Installation Phase	18,869
Off-Highway Trucks	4	8	376	0.38	Building Construction/Infrastructure Installation Phase	136,549
Tractors/Loaders/Backhoes	2	7	84	0.37	Building Construction/Infrastructure Installation Phase	14,447
Cranes	2	7	367	0.29	Building Construction/Infrastructure Installation Phase	44,500
Generator Sets	4	8	14	0.74	Building Construction/Infrastructure Installation Phase	11,007
Welders	2	8	46	0.45	Building Construction/Infrastructure Installation Phase	10,996
Rough Terrain Forklifts	2	8	96	0.4	Building Construction/Infrastructure Installation Phase	20,399
Aerial Lifts	2	8	46	0.31	Building Construction/Infrastructure Installation Phase	7,575
Aerial Lifts	2	8	63	0.31	Architectural Coating Phase	1,194
Pressure Washers	2	8	14	0.3	Architectural Coating Phase	257
Rubber Tired Dozers	2	8	367	0.4	Paving Phase	13,533
Scrapers	1	8	423	0.48	Paving Phase	9,359
Skid Steer Loaders	1	8	71	0.37	Paving Phase	1,346
Surfacing Equipment	1	8	399	0.3	Paving Phase	5,517
Paving Equipment	2	8	89	0.36	Paving Phase	3,284
Sweepers/Scrubbers	2	8	36	0.46	Paving Phase	1,697
Tractors/Loaders/Backhoes	2	8	84	0.37	Paving Phase	3,185
					Total Fuel Used	**407,089**
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	651
Site Preparation Phase	88
Grading Phase	65
Building Construction/Infrastructure	
Installation Phase	565
Paving Phase	109
Architectural Coating Phase	65
Total Days	1543

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition Phase	24.1	40	8.1	8752.03
Site Preparation Phase	24.1	53	8.1	1567.57
Grading Phase	24.1	25	8.1	546.16
Building Construction/Infrastructure				
Installation Phase	24.1	63	8.1	11963.46
Paving Phase	24.1	28	8.1	1025.78
Architectural Coating Phase	24.1	13	8.1	284.00
			Fuel	**24,139.01**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition Phase	12.7	0.02	12.7	13.02
Site Preparation Phase	12.7	0	20.0	0.00
Grading Phase	12.7	0	20.0	0.00
Building Construction/Infrastructure				
Installation Phase	12.7	2	20.0	1779.53
Paving Phase	12.7	0	20.0	0.00
Architectural Coating Phase	12.7	0	20.0	0.00
			Fuel	**1,792.55**
VENDOR TRIPS				
Demolition Phase	5.0	0	13.0	0.00
Site Preparation Phase	5.0	0	13.0	0.00
Grading Phase	5.0	0	13.0	0.00
Building Construction/Infrastructure				
Installation Phase	5.0	25	13.0	36725.00
Paving Phase	5.0	0	13.0	0.00
Architectural Coating Phase	5.0	0	13.0	0.00
			Fuel	**36,725.00**

Total Gasoline Consumption (gallons)	**24,139**
Total Diesel Consumption (gallons)	**445,607**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

HRCSD WRRF Project - Effluent Pipeline

Last Updated: 9/29/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588		HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Tractors/Loaders/Backhoes	1	8	84	0.37	Pavement Cutting/Site Preparation Phase	921
Trenchers	2	8	40	0.5	Pavement Cutting/Site Preparation Phase	1,185
Excavators	1	8	36	0.38	Trenching Phase	283
Rough Terrain Forklifts	1	8	96	0.4	Pipeline Installation Phase	794
Excavators	2	8	36	0.38	Pipeline Installation Phase	566
Tractors/Loaders/Backhoes	1	8	84	0.37	Paving/Site Restoration Phase	643
Plate Compactors	1	8	8	0.43	Paving/Site Restoration Phase	71
Rollers	1	8	36	0.38	Paving/Site Restoration Phase	283
Sweepers/Scrubbers	1	8	36	0.46	Paving/Site Restoration Phase	343
					Total Fuel Used	**5,088 (Gallons)**

Construction Phase	Days of Operation
Pavement Cutting/Site Preparation Phase	63
Trenching Phase	44
Pipeline Installation Phase	44
Paving/Site Restoration Phase	43
Total Days	194

WORKER TRIPS

Constuction Phase	MPG [2]	Trips		Trip Length (miles)	Fuel Used (gallons)
Pavement Cutting/Site Preparation Phase	24.1	16		8.1	338.79
Trenching Phase	24.1	16		8.1	236.61
Pipeline Installation Phase	24.1	16		8.1	236.61
Paving/Site Restoration Phase	24.1	16		8.1	231.24
			Fuel		**1,043.25**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips		Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS					
Pavement Cutting/Site Preparation Phase	12.7	0		12.7	0.00
Trenching Phase	12.7	0		20.0	0.00
Pipeline Installation Phase	12.7	1		20.0	1.57
Paving/Site Restoration Phase	12.7	0		20.0	0.00
			Fuel		**1.57**
VENDOR TRIPS					
Pavement Cutting/Site Preparation Phase	5.0	0		13.0	0.00
Trenching Phase	5.0	0		6.9	0.00
Pipeline Installation Phase	5.0	2		13.0	228.80
Paving/Site Restoration Phase	5.0	0		13.0	0.00
			Fuel		**228.80**

Total Gasoline Consumption (gallons)	**1,043**
Total Diesel Consumption (gallons)	**5,318**

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2* . September. Available at: https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics* . Available at: https://www.bts.gov/topics/national-transportation-statistics.

HRCSD WWRF Project

Last Updated: 10/10/2023

Populate one of the following tables (Leave the other blank):

Annual VMT		OR	Daily Vehicle Trips	
Annual VMT:	13,754		Daily Vehicle Trips:	
			Average Trip Distance:	

Fleet Class	Fleet Mix
Light Duty Auto (LDA)	0.000000
Light Duty Truck 1 (LDT1)	0.000000
Light Duty Truck 2 (LDT2)	0.689980
Medium Duty Vehicle (MDV)	0.310020
Light Heavy Duty 1 (LHD1)	0.000000
Light Heavy Duty 2 (LHD2)	0.000000
Medium Heavy Duty (MHD)	0.000000
Heavy Heavy Duty (HHD)	0.000000
Other Bus (OBUS)	0.000000
Urban Bus (UBUS)	0.000000
Motorcycle (MCY)	0.000000
School Bus (SBUS)	0.000000
Motorhome (MH)	0.000000

Fuel Economy (MPG) [1]	
Passenger Vehicles	24.1
Light-Med Duty Trucks	17.6
Heavy Trucks/Other	7.5
Motorcycles	44

Fleet Mix

Vehicle Type	Percent	Fuel Type	Annual VMT: VMT	Vehicle Trips: VMT	Fuel Consumption (Gallons)
Passenger Vehicles	*0.00%*	*Gasoline*	0	0.00	0
Light-Medium Duty Trucks	*100.00%*	*Gasoline*	13,754	0.00	781
Heavy Trucks/Other	*0.00%*	*Diesel*	0	0.00	0
Motorcycle	*0.00%*	*Gasoline*	0	0.00	0

Total Gasoline Consumption (gallons)	**781**
Total Diesel Consumption (gallons)	**0**

Sources:

[1] United States Department of Transportation, Bureau of Transportation Statistics. 2021. National Transportation Statistics. Available at: https://www.bts.gov/topics/national-transportation-statistics.

Appendix E

Paleontological Resources Assessment

Heritage Ranch Water Resource Recovery Facility Project

Paleontological Resources Assessment

prepared for

Heritage Ranch Community Services District
4870 Heritage Road
Paso Robles, California 93446
Contact: Scott B. Duffield, P.E., General Manager

prepared by

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, California 93401

November 2023

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained by Water Systems Consulting, Inc. on behalf of the Heritage Ranch Community Services District (HRCSD) to conduct a Paleontological Resources Assessment (PRA) for the Heritage Ranch Water Resource Recovery Facility Project (project or proposed action) in San Luis Obispo County, California. This PRA includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010) to determine whether the proposed action would result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws. The project site consists of two non-contiguous areas: a site for construction of a new water resource recovery facility, effluent pipeline, and a spray field site for wastewater discharge.

Results of Investigation

The proposed site for the water resource recovery facility and effluent pipeline are underlain by two geologic units, Quaternary older alluvium, and the Atascadero Formation (Dibblee and Minch 2007). The spray field site is underlain by the Atascadero Formation (Dibblee and Minch 2006). Sediments similar to Quaternary older alluvium have produced scientifically significant paleontological resources throughout San Luis Obispo County (Bell 2022; Jefferson et al. 1992; Paleobiology Database 2022; University of California Museum of Paleontology 2022); therefore, this geologic unit has high paleontological sensitivity. The Atascadero Formation has produced Cretaceous-aged invertebrate fossils throughout the Coast Ranges of California, including near the project site (Bell 2022; Paleobiology Database 2022; University of California Museum of Paleontology 2022). Therefore, the Atascadero Formation has high paleontological sensitivity. A records search of the Natural History Museum of Los Angeles County determined there are no known fossil localities from within the project site (Bell 2022).

Impacts and Recommendations

The project site is underlain by two geologic units (Quaternary older alluvium and Atascadero Formation) with high paleontological sensitivity (Dibblee and Minch 2006 and 2007). Ground-disturbing construction activities that affect previously undisturbed portions of these geologic units could result in significant impacts/adverse effects to paleontological resources under CEQA and federal environmental protection laws, respectively.

Ground-disturbing construction activities at the water resource recovery facility site and along the replacement effluent pipeline alignment would consist of grading, trenching, and excavations that would reach up to approximately 15 feet and approximately 4.25 feet below the surface, respectively, which could significantly impact or adversely affect paleontological resources under CEQA and federal environmental protection laws, respectively. Ground-disturbing construction activities at the spray field site would only impact previously disturbed sediments. Therefore, construction activities on the spray field site do not have the potential to significantly impact or

adversely affect paleontological resources under CEQA and federal environmental protection laws, respectively.

Mitigation Measure PAL-1 is recommended to reduce potential impacts/effects to paleontological resources to a level of less-than-significant under CEQA and no adverse effect under federal environmental protection laws. This mitigation measure involves paleontological monitoring for ground-disturbing activities within previously undisturbed sediments associated with the construction of the water resource recovery facility and replacement effluent pipeline.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop Paleontological Resources Assessment (PRA) for the Heritage Ranch Water Resource Recovery Facility Project (project) in San Luis Obispo County, California. This assessment includes a literature review, paleontological records search, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks, and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction-related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities associated with the proposed project would mainly consist of grading, trenching, and excavation. This PRA provides a list of the formations mapped at the surface within the project site and formations that underlie those mapped at the surface that may be impacted by project construction activities.

1.1 Project Location

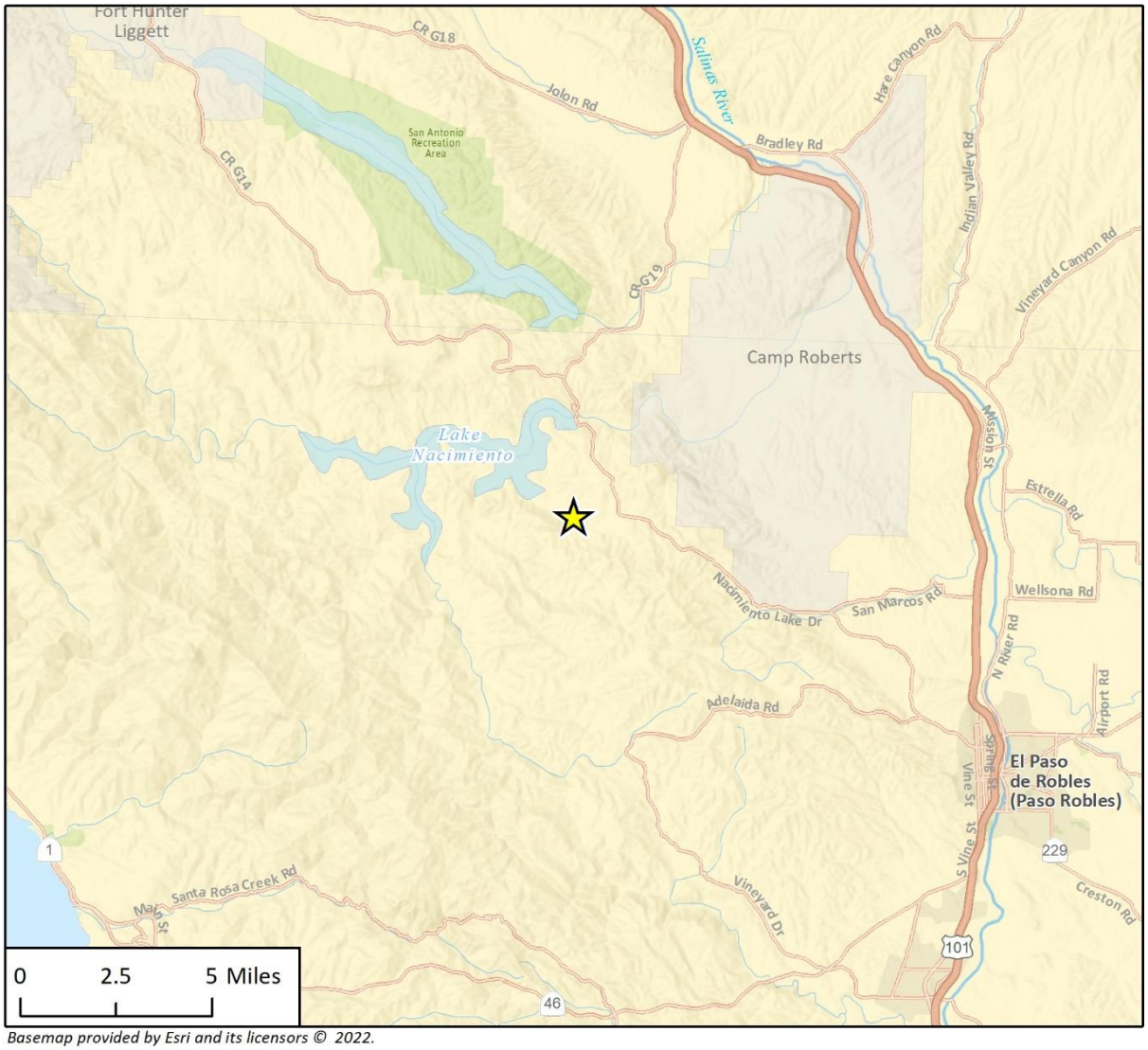
The project site is located in Lake Nacimiento, a census-designated place in unincorporated San Luis Obispo County, and is comprised of two, non-contiguous areas - the existing Heritage Ranch Community Services District (HRCSD) wastewater treatment plant and an existing HRCSD spray field. The water resource recovery facility (WRRF) location (Assessor's Parcel Number [APN] 012-181-085) is comprised of an approximately 5.5-acre site at 4870 Heritage Road in Paso Robles, and the spray field location (APN 012-361-018) is comprised of an approximately 1.6-acre site at the end of a private road that proceeds from the northern terminus of Parkway Circle. See Figure 1 for a map of the regional project location and Figure 2 and Figure 3 for maps of the project sites in a local context.

1.2 Project Description

Background

The HRCSD received a new Waste Discharge Requirements (WDR) from the Central Coast Regional Water Quality Control Board (RWQCB) in September 2017 (Waste Discharge Order No. R3-2017-0026). HRCSD was unable to meet the standards in the WDR for copper, nitrate, and un-ionized ammonia. As a result, HRCSD received a Time Schedule Order from the Central Coast RWQCB in May 2018 (R3-2018-0011), which granted HRCSD five years to make necessary process improvements to achieve compliance with its WDR. HRCSD spent the next few years making process adjustments but remained unable to achieve compliance. In April 2021, a preliminary engineering memorandum determined the existing treatment ponds lacked capacity to treat wastewater to meet discharge requirements. In light of these results, HRCSD determined replacement of its existing treatment process was necessary and requested an additional Time Schedule Order from the Central Coast RWQCB. The updated Time Schedule Order (TSO R3-2022-0046) went into effect on October 14,

Figure 1 Regional Location

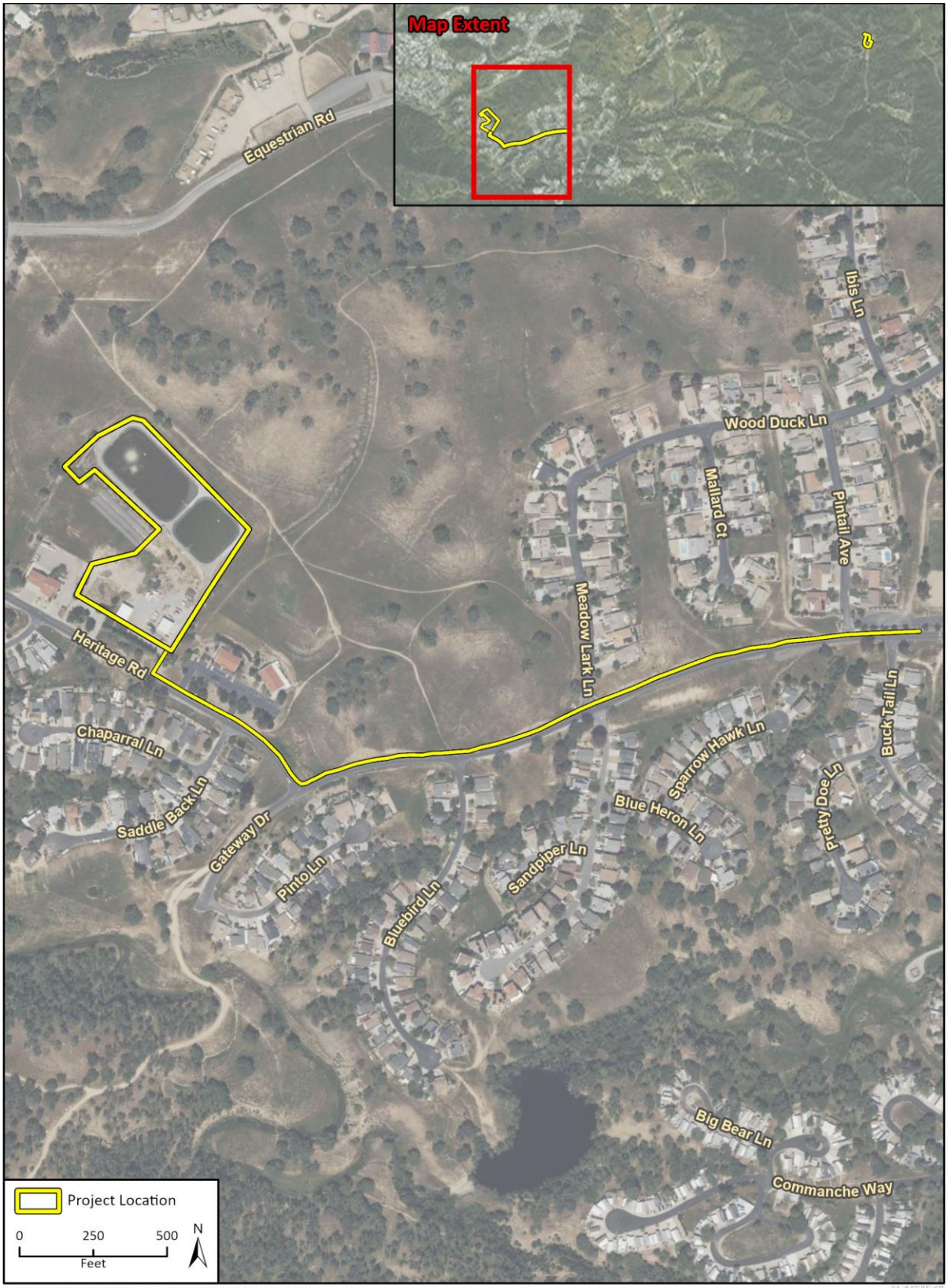


Basemap provided by Esri and its licensors © 2022.

Project Location

N

Figure 2 Project Site Location – Water Resource Recovery Facility and Effluent Pipeline



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21-11535 CR
Fig 2 Project Location

Figure 3 Project Site Location – Spray Field

Imagery provided by Microsoft Bing and its licensors © 2023.

21-11535 EPS
Fig 2 Project Location

2022 and is the final time extension available to HRCSD, which grants it five years to complete construction and commissioning of new treatment processes.

Project Components

The Heritage Ranch Water Resource Recovery Facility (WRRF) Project (herein referred to as "proposed project" or "project") includes upgrades to the existing HRCSD wastewater treatment plant, effluent pipeline, and spray field to comply with Waste Discharge Order No. R3-2017-0026. The overall pipeline alignment corridor for influent to the existing HRCSD wastewater treatment plant location would remain unchanged from existing conditions. The proposed project is intended bring the existing system into compliance with water quality standards and provide capacity to service existing and planned growth outlined in the County of San Luis Obispo's General Plan, North County Area Plan, and Heritage Ranch Village Standards. The total wastewater treatment capacity of HRCSD under the proposed project would not be increased as compared to the existing capacity of HRCSD's wastewater treatment facility (i.e., no net increase in wastewater treatment capacity).

Water Resource Recovery Facility

The proposed project would include modification and demolition of the existing HRCSD wastewater treatment plant elements and construction of new WRRF elements with an average annual daily flow capacity of approximately 0.29 million gallons per day. The WRRF would produce tertiary treated effluent, a portion of which may be re-used in on-site processes. The WRRF would include the following facilities and treatment technologies:

- Process Control - equalization basin and site pumping stations
- Preliminary Treatment - coarse/bar screens and grit removal
- Secondary Treatment - fine screens and Modified Ludzack-Ettinger (MLE) Activated Sludge Process with Membrane Bioreactor (MBR)
- Tertiary treatment - chlorine disinfection and chemical storage area
- Solids handling - thickening, dewatering, and storage; potentially stabilization and digestion; odor control for dewatered solids (e.g., blower)
- Disposal system - on-site storage facilities and a pump station
- Supervisory control and data acquisition (SCADA) system

In addition to treatment process infrastructure, the WRRF would include supporting facilities necessary to operate, maintain, secure, and preserve the site. These supporting facilities would consist of an approximately 1,200-square-foot (sf) office space to provide administrative support; an approximately 500- to 750-sf standby power generation enclosure for emergency backup power supply; an approximately 800-sf electrical building to house electrical and control equipment; and safety and spill prevention structures. A 350-kilowatt (kW) diesel backup generator (similar or equivalent to a CAT D350 GC generator) would be installed for use during power outages and other emergency situations. Heating, ventilation, and air conditioning (HVAC) equipment would be installed at the proposed office and electrical buildings as well as any other enclosed spaces.

Wastewater Discharge

The proposed project includes installation of a new, eight-inch-diameter effluent pipeline between the southeastern corner of the wastewater treatment plant location and the Gateway Drive and Longhorn Lane intersection. This new effluent pipeline would replace the existing, aging six-inch

diameter pipeline, which does not meet current design pressure requirements and would be abandoned in place. The new effluent pipeline would be located between the existing pipeline and the nearest edge of pavement, approximately five feet from the edge of the pavement and within the paved roadway.

The new effluent pipeline in conjunction with the existing force main east of its terminus would convey secondary treated effluent to the outfall located at the existing spray field location at 35.730833°N, 120.839167 °W. The average annual flow of the WWRF (approximately 325 acre-feet per year) would be discharged to the outfall. As part of the proposed project, modifications at the spray field location would consist of demolition and abandonment of the sand filters in use at the existing spray field and replacement of the de-chlorination facilities with a more robust de-chlorination process. No modifications to the storage pond located adjacent to the existing spray field would occur, and discharges to the storage pond would remain the same as under existing conditions.

Construction

Construction of the proposed project would occur over an approximately three-year period between approximately June 2024 and August 2027. Construction activities at the wastewater treatment plant and spray field locations would consist of demolition, site preparation, grading, building construction, infrastructure installation, paving, site restoration, and architectural coating. In addition, rock breaking/processing might be required. The project would require demolition of the existing chlorine chemical storage structure, storage shed, fuel tanks shed, and effluent pump station. On-site utilities such as electrical, sewer, and water lines would likely be demolished or relocated within the project site. The maximum depth of excavation would be approximately 15 feet, and approximately 4,000 cubic yards of soil would be excavated and used on site as fill material.

Construction activities for the new effluent pipeline would consist of demolition/pavement cutting, site preparation, trenching, pipeline installation and paving/site restoration. The new pipeline would be installed via open trenching methods, and the trench would be approximately two feet wide. The work area along the alignment would typically be approximately 15 feet wide by 300 feet long, and approximately 200 linear feet of pipeline would be installed per day. The maximum depth of excavation would be approximately 4.25 feet. Approximately 1,165 cubic yards of soil would be excavated with approximately 1,025 cubic yards used on site as fill material. Approximately 140 cubic yards of soil material would be exported, and approximately 140 cubic yards of fill material for pipe bedding would be imported.

Construction equipment and materials staging along with construction worker parking would occur within the project site.

2 Regulations

2.1 Federal Regulations

Because the project may seek federal funding, this project must comply with several federal regulations in addition to the requirements of CEQA.

National Environmental Policy Act (42 United States Code, Section 4321 et seq.; 40 Code of Federal Regulations Section 1502.25)

The National Environmental Policy Act, as amended, directs federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage (Section 101[b][4])." The current interpretation of this language includes scientifically important paleontological resources among those resources potentially requiring preservation.

2.2 State Regulations

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states a project would "normally" have a significant effect on the environment if project effects exceed an identified threshold of significance (CEQA Guidelines Section 15064.7[a]). Appendix G of the CEQA Guidelines (the Environmental Checklist Form) provides suggested thresholds of significance for evaluating a project's environmental impacts, including impacts to paleontological resources. In Section VII(f), the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define "a unique paleontological resource or site." However, the SVP (2010) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for mitigating impacts to paleontological resources, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

California Public Resources Code Section 5097.5 states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.3 Regional and Local Regulations

County of San Luis Obispo General Plan

The Conservation and Open Space Element of the County of San Luis Obispo General Plan addresses paleontological resources (County of San Luis Obispo 2010). Goal CR 4 states, "The county's known and potential Native American, archaeological and paleontological resources will be preserved and protected," and Policy CR 4.5 explains the County's implementation strategies for protecting paleontological resources:

> **Policy CR 4.5 Paleontological Resources**: Protect paleontological resources from the effects of development by avoiding disturbance where feasible.
>
> - **Implementation Strategy CR 4.5.1 Paleontological Studies.** Require a paleontological resource assessment and mitigation plan to 1) identify the extent and potential significance of the resources that may exist within the proposed development and 2) provide mitigation measures to reduce potential impacts when existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources.
> - **Implementation Strategy CR 4.5.2 Paleontological Monitoring.** Require a paleontologist and/or registered geologist to monitor site-grading activities when paleontological resources are known or likely to occur. The monitor will have the authority to halt grading to determine the appropriate protection or mitigation measures. Measures may include collection of paleontological resources, curation of any resources collected with an appropriate repository, and documentation with the County.

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This PRA satisfies Public Resources Code Section 5097.5 requirements and follows guidelines and significance criteria specified by the SVP (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Because fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. These activities may constitute significant impacts under CEQA or adverse effects under federal environmental protection laws and may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geologic units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

In its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the SVP outlines guidelines for categorizing paleontological sensitivity of geologic units within a project site. The SVP describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, or uncommon diagnostically, stratigraphically, taxonomically, or regionally (SVP 2010). The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations that contain significant nonrenewable paleontological resources anywhere within their geographical extent and sedimentary rock units temporally or lithologically suitable for the preservation of

fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas that contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well-documented and understood taphonomic processes (those affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potential for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potential of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

4 Methods

Rincon reviewed published geologic maps to identify the geologic units present at and below the surface within the project site (Dibblee and Minch 2006 and 2007). Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP; 2023) and Paleobiology Database (2023) and consulted primary literature to identify known fossil localities in San Luis Obispo County and surrounding regions from similar geologic units to those identified within the project site. Rincon requested a records search of the Natural History Museum of Los Angeles County on September 15, 2022, to identify any fossil localities known from within the project site or nearby fossil localities known from the same geologic units as those underlying the project site. The project area contains no bedrock exposures; therefore, a field survey was not warranted.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the records search and literature review and based on the potential effects to nonrenewable paleontological resources from project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The project site is located in the Coast Ranges geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey 2002). The Coast Ranges extend along the majority of California's coast from the California-Oregon border to Point Arguello in Santa Barbara County in the south and consist of northwest-trending mountain ranges and valleys. The Coast Ranges are composed of Mesozoic and Cenozoic sedimentary, igneous, and metamorphic strata. The eastern side is characterized by strike-ridges and valleys in the Upper Mesozoic strata. The Coast Ranges province runs parallel to and overlaps the San Andreas Fault in some areas (California Geological Survey 2002).

Locally, the sites for the WRRF, replacement effluent pipeline alignment, and spray field are within the *Lime Mountain* and *Adelaida* United States Geological Survey 7.5-minute quadrangles, respectively. The overall project site is within the southeastern part of the Santa Lucia Range, southeast of Lake Nacimiento (see Figure 1 in Section 1.1, *Project Location*).

5.2 Geology of the Project Site

The geology of the region around the WRRF site and replacement effluent pipeline alignment was mapped at a scale of 1:24,000 by Dibblee and Minch (2007), who identified two geologic units underlying the site - Quaternary older alluvium and the Atascadero Formation (Figure 4). The geology of the region around the spray field site was mapped at a scale of 1:24,000 by Dibblee and Minch (2006), who identified a single geologic unit, the Atascadero Formation, underlying the site (Figure 5).

Quaternary Older Alluvium

Quaternary older alluvium underlies most of the proposed site for the WRRF and part of the replacement effluent pipeline alignment (Figure 4). Quaternary older alluvium consists of weakly indurated gravel, sand, and clay that is Pleistocene in age (Dibblee and Minch 2007). Pleistocene alluvial sediments have produced scientifically significant paleontological resources throughout San Luis Obispo County, including taxa such as mammoths (*Mammuthus*), bison (*Bison*), ground sloth (*Paramylodon*), horse (*Equus*), camel (*Camelops*), and rodents (Bell 2022; Jefferson et al. 1992; Paleobiology Database 2023; UCMP 2023). Given this fossil-producing history, Quaternary older alluvium has **high paleontological sensitivity.**

Atascadero Formation

The Atascadero Formation underlies the northern part of the proposed site for the WRRF, part of the replacement effluent pipeline alignment, and the entire spray field site (Figure 4; Figure 5). The Atascadero Formation consists of light gray to light brown, thick-bedded sandstone with lenses of cobble conglomerate and micaceous claystone (Dibblee and Minch 2006 and 2007). The part of the Atascadero Formation that underlies the project site is Late Cretaceous in age. The Atascadero Formation has produced several Late Cretaceous invertebrate bearing localities (mostly bivalve),

Figure 4 Geologic Map – Water Resource Recovery Facility Location (APN 012-181-085)

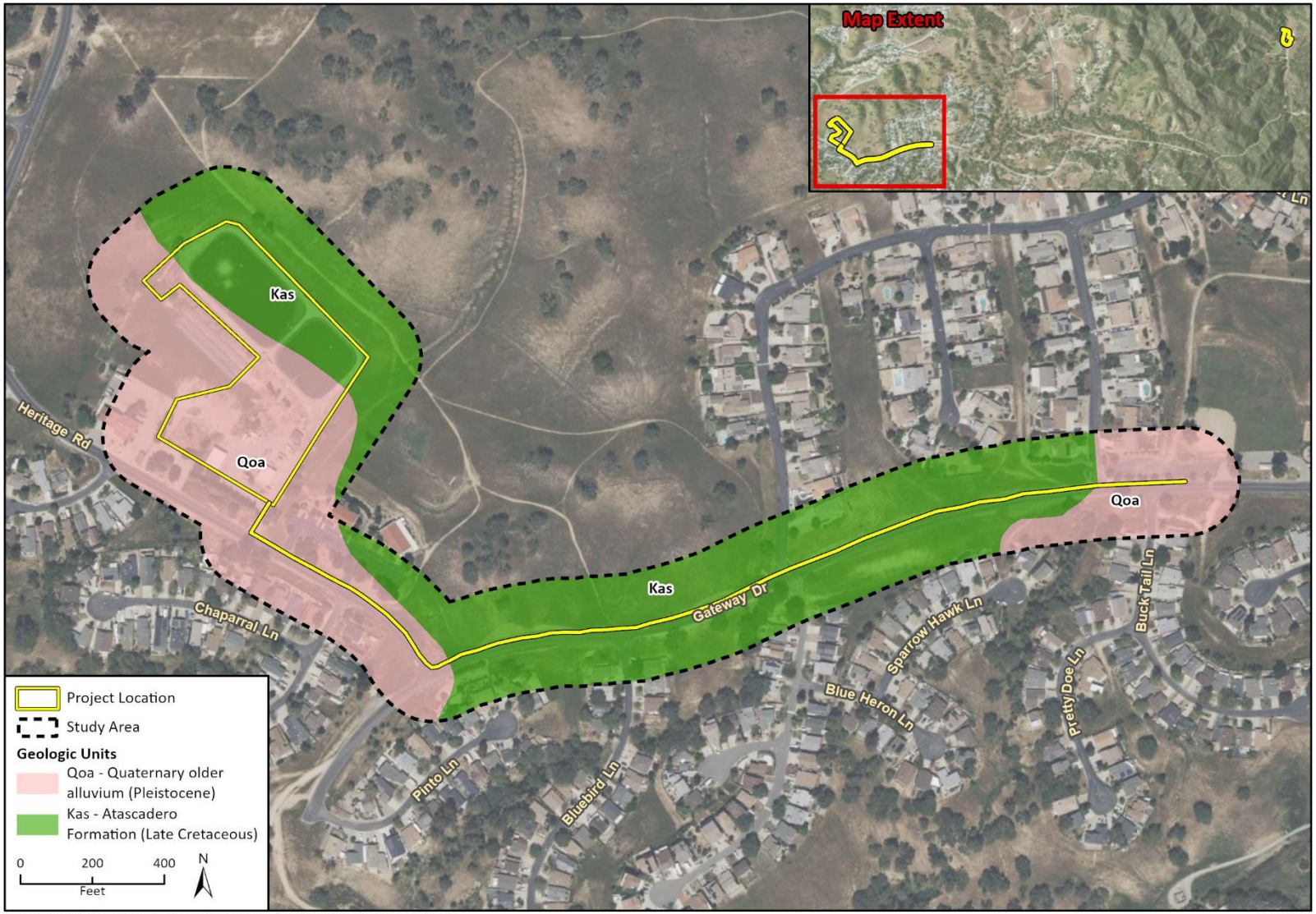
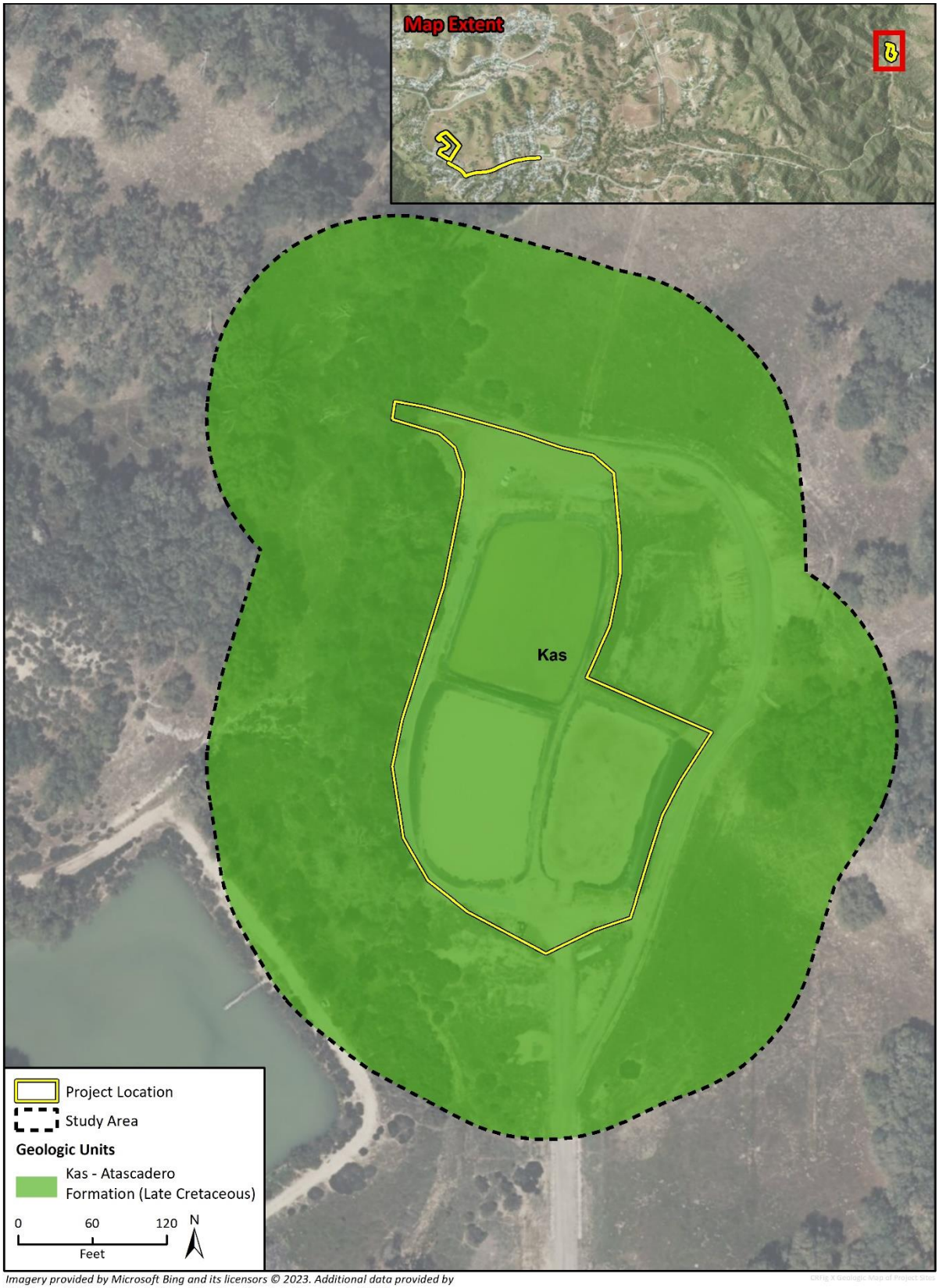


Figure 5 Geologic Map – Spray Field (APN 012-361-018)



Imagery provided by Microsoft Bing and its licensors © 2023. Additional data provided by Dibblee and Minch, "Geologic Map of the Lime Mountain Quadrangle," 2007.

including near Lake Nacimiento (Bell 2022; UCMP 2023). Therefore, the Atascadero Formation has **high paleontological sensitivity.**

5.3 Paleontology of the Project Site

A formal fossil locality search of the Natural History Museum of Los Angeles County identified no fossil localities within the project site (Bell 2022). However, significant paleontological resources (i.e., horse, mammoth, or mastodon) have been recorded from unnamed Pleistocene deposits approximately 10 miles east and southeast of the project site. Additionally, unidentified invertebrate fossils are known from Atascadero Formation deposits approximately 12 miles south of the project site.

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

The site for the WRRF and replacement effluent pipeline alignment are underlain by two geologic units, Quaternary older alluvium and the Atascadero Formation (Figure 4). The site of the spray field is underlain by a single geologic unit, the Atascadero Formation (Figure 5). As indicated in Section 5, *Description of Resources*, Quaternary older alluvium and the Atascadero Formation both have high paleontological sensitivity.

6.2 Impacts

Ground-disturbing activities (i.e., grading, excavating, trenching) in previously undisturbed portions of the project site that are underlain by geologic units with a high paleontological sensitivity (i.e., Quaternary older alluvium or Atascadero Formation) may result in significant impacts to paleontological resources under CEQA or adverse effects to paleontological resources under federal environmental protection laws. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

Ground-disturbing construction activities at the WRRF site would consist of grading and excavations that are expected to reach up to approximately 15 feet below the surface. At this depth, undisturbed portions of either Quaternary older alluvium or the Atascadero Formation, both of which have high paleontological sensitivity (Figure 4), would likely be impacted. Therefore, construction associated with the WRRF has the potential to significantly impact or adversely affect paleontological resources under CEQA and federal environmental protection laws, respectively.

Ground-disturbing construction activities for the effluent pipeline would consist of trenching that is expected to reach up to approximately 4.25 feet below the surface. This activity is expected to require excavating approximately 1,165 cubic yards of soil. The replacement pipeline would be installed within the existing roadway, meaning that a significant proportion of the excavated sediment would consist of non-paleontologically-sensitive artificial fill and/or disturbed sediments. Nevertheless, there is potential for previously undisturbed, paleontologically sensitive sediments to be impacted by construction of the replacement effluent pipeline. As such, construction associated with the replacement effluent pipeline has the potential to significantly impact or adversely affect paleontological resources under CEQA and federal environmental protection laws, respectively.

Ground-disturbing construction activities at the spray field site would only consist of activities impacting previously disturbed sediments. Therefore, construction activities on the spray field site do not have the potential to significantly impact or adversely affect paleontological resources under CEQA and federal environmental protection laws, respectively.

6.3 Recommendations

The following mitigation measure would address potentially significant impacts/adverse effects under CEQA and federal environmental protection laws, respectively, if paleontological resources are encountered during project-related ground-disturbing activities. This measure would only apply to ground-disturbing activities in previously undisturbed sediments associated with the construction occurring at the WRRF site and along the replacement effluent pipeline alignment. Implementation of Mitigation Measure PAL-1 would effectively mitigate the project's potentially significant impacts/adverse effects to these resources under CEQA and federal environmental protection laws, respectively, through the recovery, identification, and curation of previously unrecovered fossils.

PAL-1 Paleontological Resources Monitoring and Mitigation

- **Qualified Paleontologist.** HRCSD should retain a Qualified Professional Paleontologist, as defined by SVP (2010) standards. The Qualified Professional Paleontologist should direct all mitigation measures related to paleontological resources.
- **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction, the Qualified Professional Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program (WEAP) training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction personnel.
- **Paleontological Monitoring.** Full-time paleontological monitoring should be conducted during ground-disturbing construction activities in previously undisturbed sediments associated with construction at the WRRF site. Additionally, initial part-time monitoring (i.e., spot-checking) should be conducted during trenching for the replacement effluent pipeline to determine whether previously undisturbed, high-sensitivity sediments (i.e., Quaternary older alluvium or Atascadero Formation) are being affected. If such sediments are encountered, then full-time monitoring should be conducted. Paleontological monitoring should be conducted by a qualified paleontological monitor, who is defined as an individual with experience collecting and salvaging paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The Qualified Professional Paleontologist may recommend that monitoring be reduced in frequency or ceased entirely based on geologic observations. Such decisions shall be subject to review and approval by HRCSD.
    a. **Fossil Discovery Procedures.** In the event of a fossil discovery by the paleontological monitor or construction personnel, all construction activity within 50 feet of the find shall cease, and the Qualified Professional Paleontologist shall evaluate the find. If the fossil(s) is (are) not scientifically significant, then construction activity may resume. If it is determined that the fossil(s) is (are) scientifically significant, the following shall be completed:
    b. **Fossil Salvage.** The paleontological monitor shall salvage (i.e., excavate and recover) the fossil to protect it from damage/destruction. Typically, fossils can be safely salvaged quickly by a single paleontological monitor with minimal disruption to construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits. After the fossil(s) is (are) salvaged, construction activity may resume.

c. **Fossil Preparation and Curation**. Fossils shall be identified to the lowest (i.e., most-specific) possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Professional Paleontologist.

- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activities (or laboratory preparation and curation of fossils, if necessary), the Qualified Professional Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts. The report shall include a summary of the field and laboratory methods employed; an overview of project geology; and, if fossils were discovered, an analysis of the fossils, including physical description, taxonomic identification, and scientific significance. The report shall be submitted to the HRCSD and, if fossil curation occurs, the designated scientific institution.

7 References

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8 List of Preparers

Rincon Consultants, Inc.

Primary Author

- Andrew McGrath, Paleontologist

Technical Review

- Jennifer DiCenzo, Senior Paleontologist/Paleontological Program Manager

Principal Review

- Nichole Jordan, Principal

Appendix A

Staff Resumes

Nichole Jordan, RPA

Cultural Resources Principal

Ms. Jordan is a Cultural Resources Principal with Rincon Consultants. She is a Registered Professional Archaeologist (#989208) and meets the Secretary of the Interior's Standards Professional Qualification Standards for prehistoric and historical archaeology and the Society for California Archaeology's professional qualification standards for Principal Investigator. Ms. Jordan has 19 years of experience in cultural resources management, including project management, personnel management, Native American consultation, archival research, laboratory analysis, ethnographic and historical research, field survey, archaeological excavation, laboratory analysis, collections management, and GIS applications. She has experience with cultural and tribal cultural resources issues as they relate to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). She directs the preparation of cultural resources technical studies compliant with Section 106 of the National Historic Preservation Act (NHPA), CEQA, and agreement documents. These include studies documenting research, survey, testing, excavation, monitoring and evaluation for inclusion in the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register).

EDUCATION

MA, Applied Anthropology, California State University, East Bay (2009)

BA, Anthropology, California State University, Sacramento (2005)

AA, Social Science, Los Rios Community College, Sacramento (2003)

CERTIFICATIONS/ REGISTRATIONS

Register of Professional Archaeologists

California Council for the Promotion of History

Society for American Archaeology

Society for California Archaeology, Legislative Committee

Section 106 for Experienced Practitioners

Section 4(f) for Historic Properties

CEQA for Advanced Practitioners

YEARS OF EXPERIENCE

16

EXPERIENCE

Rincon Consultants, Inc. (2020 to present)

SELECT PROJECT EXPERIENCE

Contract Manager, Pacific Gas and Electric Company - Access Roads Management Program (North Region), Various COunties
Pacific Gas and Electric Company's (PG&E) Access Roads Management Program manages PG&E's network of access roads to electrical transmission and certain distribution infrastructure throughout PG&E's service territory. Ms. Jordan's team provided land planner support, resource agency permitting, resource constraints analyses, resource inventories, and general environmental services to support the Access Road Management program in the North Region.

Project Manager, Southwest Gas – North Shore Drive Gas Line Replacement Project, San Bernardino County
Southwest Gas proposed the North Shore Drive project in Big Bear Lake in San Bernardino County. The United States Forest Service is the Section 106 lead on the project for which several archaeological and built environment cultural resources are being evaluated for inclusion in the National Register and California Register. The project's potential to affect resources will be assessed and Environmentally Sensitive Area Fencing will be placed, as appropriate.

Project Manager, North Star Solar – North Star Generation Tie Line, Switching Station, and Related Facilities, Fresno County
North Star Solar proposed the North Star Generation Tie Line, Switching Station, and Related Facilities Project as part of the continuing development and expansion of its North Star solar generating facility near Mendota in Fresno County. This CEQA-compliant cultural resources study evaluated three built environment resources and identified three historic-period archaeological resources eligible for inclusion in the California Register. During project construction, pre-construction meetings were held with the construction crew, and archaeological monitoring was conducted at archaeological resource locations, which was documented in the archaeological monitoring report.

SELECT PROJECT EXPERIENCE (CONTINUED)

Principal Investigator, California Department of Transportation – Kilburn Road Bridge Replacement Project, Stanislaus County
The County of Stanislaus, in coordination with the California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, proposed the Kilburn Road Bridge Replacement Project near Crows Landing. Kilburn Road Bridge (No. 38C0168) is a National Register–eligible resource that required a Finding of Effect, Environmentally Sensitive Area Action Plan, and Memorandum of Agreement. This project also required a Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR) and Area of Potential Effects (APE) map.

Principal Investigator, City of Elk Grove – Kammerer Road Extension Project, Elk Grove
The County of Sacramento and the City of Elk Grove, in coordination with Caltrans with funding administered through the Federal Highway Administration, proposed to extend Kammerer Road between Highway 99 and Interstate 5. Ms. Jordan directed the cultural resources technical studies, which resulted in a finding of no historic properties affected with standard conditions. The scope of work included an HPSR, ASR, APE, Historical Resources Evaluation Report, Management Plan, Programmatic Agreement, and Memorandum of Understanding. Fourteen built environment cultural resources were recommended not eligible for inclusion in the National Register and California Register, and one prehistoric archaeological resource was assumed eligible for both registers for the purposes of the project. Consulting tribes were invited to be concurring parties on the Programmatic Agreement prepared for the project because they identified the prehistoric archaeological resource as a tribal cultural resource within the APE.

Principal Investigator, Caltrans – North County Corridor New State Route 108 Project, Stanislaus County
The North County Corridor Transportation Expressway Authority, in conjunction with Caltrans, as assigned by the Federal Highway Administration, proposed the North County Corridor New State Route 108 project. The project will relocate the existing State Route 108, which currently runs through the cities of Riverbank and Oakdale, to the south and would increase roadway capacity to accommodate existing and future traffic volumes. Ms. Jordan directed the preparation of the Historical Resources Evaluation Report, which evaluated 141 properties, recommending four eligible for inclusion in the National Register and 137 properties not eligible for inclusion.

Principal Investigator, City of Rancho Cordova – Folsom Boulevard Complete Streets Project, Rancho Cordova
The City of Rancho Cordova, in conjunction with Caltrans, proposed to construct sidewalks, bike lanes, medians, safety fencing, and street and pedestrian lighting along Folsom Boulevard between Rod Beaudry Drive and Horn Road at the western end of the city. Ms. Jordan managed the cultural resources subconsultants that prepared an ASR, HPSR, and Extended Phase I Study to determine if this project had the potential to affect a previously identified archaeological resource adjacent to the APE. The State Office of Historic Preservation concurred with the recommendation of no historic properties affected.

Task Manager, City of Elk Grove – Big Horn Boulevard and Bilby Road Extension Projects, Elk Grove
Ms. Jordan managed the completion of the cultural resources identification and evaluation study required for the project's compliance with Section 106 of the NHPA. Ms. Jordan directed the preparation of the study, delineation of the APE, interested parties consultation, a built environment survey, and built environment resources evaluations for inclusion in the National Register with one resource recommended eligible.

Task Manager, City of South San Francisco – Community Civic Campus Project, South San Francisco
Ms. Jordan directed the preparation of a cultural resources letter report summarizing the methods and results of an intensive-level cultural resources field survey, records search, and two California Register evaluations. The intent of the field survey, records search, and California Register evaluations was to determine the presence of any historical resources (archaeological and built environment) within or adjacent to the project area that may be directly impacted by the project. Based on the results of this study, the project does not have the potential to impact known cultural resources; however, sensitivity for encountering prehistoric and historic period archaeological resources is very high. Mitigation measures included a pre-construction meeting, construction monitoring, construction cessation if archaeological resources are identified, and adherence to California Health and Safety Code Section 7050.5.

Jennifer DiCenzo

Paleontological Program Manager

Ms. DiCenzo has over 10 years of fieldwork and consulting experience in California paleontology and archaeology. She received her B.A. degree in anthropology with a focus in archaeology and a minor in geology with a focus on paleontology at San Diego State University in 2012. She has made substantial contributions supervising field staff, surveying, construction mitigation monitoring, conducting data recovery, salvaging fossils, preparing fossils in laboratory settings, writing technical assessments, developing and administering monitoring and mitigation plans, and managing projects. Ms. DiCenzo has coordinated compliance monitoring on a range of projects including renewable energy, housing and commercial development, transportation, and utility projects. She has written or supervised the preparation of numerous technical documents including paleontological resources assessments and technical reports, impact analyses, paleontological mitigation and monitoring plans, paleontological sections of Environmental Impact Reports, Environmental Assessment, Initial Study-Mitigated Negative Declarations, paleontological monitoring reports, and paleontological survey reports.

EDUCATION

BA, Anthropology, Minor in Geology, San Diego State University, San Diego, California

YEARS OF EXPERIENCE

10+

EXPERIENCE

Rincon Consultants, Inc. (2021 to present)

Red Tail Environmental, Inc. (2018 to 2021)

Paleo Solutions, Inc. (2012 to 2018)

SELECT PROJECT EXPERIENCE

Senior Paleontologist/Project Manager, County of San Luis Obispo - San Luis Obispo County Paso Basin Land Use Management Area Planting Ordinance Program Environmental Impact Report, San Luis Obispo County
Ms. DiCenzo was responsible for overseeing the paleontological study for incorporation into the Program Environmental Impact Report for this project. The study consisted of reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and recommending measures to mitigate impacts to fossil resources.

Senior Paleontologist, City of San Luis Obispo Utilities Department – Water Resource Recovery Facility Project, San Luis Obispo County
Ms. DiCenzo was responsible for providing oversight and coordination of paleontological fieldwork for this ongoing mass excavation into Quaternary older alluvial deposits.

Senior Paleontologist/Project Manager, City of Port Hueneme – Bubbling Springs Routine Maintenance Agreement Project, Ventura County
Ms. DiCenzo oversaw preparation of the paleontological resources section of the Initial Study-Negative Declaration for the project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and providing measures to mitigate impacts to fossil resources.

Senior Paleontologist/Project Manager, Santa Clarita Valley Water Agency – South Wells PFAS Groundwater Treatment Facility Project, Ventura County
Ms. DiCenzo oversaw preparation of the paleontological resources section for the Initial Study-Mitigated Negative Declaration for this project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity ratings and providing measures to mitigate impacts to fossil resources during construction.

SELECT PROJECT EXPERIENCE (CONTINUED)

Principal Investigator/Project Manager, Casitas Municipal Water District – Ventura-Santa Barbara Intertie Project, Ventura County
Ms. DiCenzo is responsible for managing paleontological consulting, monitoring, and reporting for several ongoing projects related the Ventura-Santa Barbara Intertie Project. Ms. DiCenzo supervises and coordinates paleontological field personnel and provides guidance related to handling of paleontological resource localities during excavations into multiple geologic units with a range of sensitivities.

Senior Paleontologist/Project Manager, Southern California Edison – Valle Substation Project, Ventura County
Ms. DiCenzo was responsible for providing oversight and coordination of all fieldwork and prepared a summary of findings for a paleontological survey of this proposed utility improvements project.

Senior Paleontologist, Southern California Edison – Valley South Subtransmission Line Project, Riverside County
Ms. DiCenzo was responsible for leading a crew of eight team members through 17 miles of a proposed linear transmission line alignment. All survey work was incorporated into the Proponent's Environmental Assessment (PEA) for Southern California Edison. This included proper Bureau of Land Management authorization and permitting to conduct surveying and a research design for field reconnaissance related to the PEA, Environmental Impact Statement/Environmental Impact Report documentation for the transmission line.

Paleontologist, California Department of Transportation District 8 – French Valley Parkway/Interstate 15 Project, Riverside County
Ms. DiCenzo was one of two paleontologists responsible for surveying, planning, construction mitigation monitoring, and writing the paleontological technical sections of the final survey and monitoring reports for excavations into the highly sensitive Pauba Formation in a complex area of the project requiring work on a busy freeway and city streets.

Project Manager/Senior Paleontologist, Greystar/City of San Diego – Sixth and Olive Project, San Diego County
Ms. DiCenzo was responsible for recovering 70 fossil specimens from nine localities for a mass excavation 70+ feet into San Diego Formation near Balboa Park in eastern Downtown San Diego. She drafted the budget, prepared the proposal, attended preconstruction meetings with the City of San Diego, provided record search and literature review results, then applied cross-trained archaeological and paleontological field and technical support during the project, provided project management/scheduling, salvaged fossil specimens, prepared fossil specimens in the laboratory, curated the fossil collection, and wrote the final paleontological monitoring report.

Project Manager/Paleontologist, City of San Diego – Courthouse Commons South Block Project, San Diego County
Ms. DiCenzo attended preconstruction meetings with City of San Diego and provided record search and literature review. Ms. DiCenzo provided paleontological technical expertise, monitoring, salvaging, and project management/scheduling for a mass excavation into very old paralic deposits.

Project Manager/Field Paleontologist/Report Author, City of San Diego – Ashley Falls Large Scale Storm Flow Storage Lid Project, San Diego County
Ms. DiCenzo estimated project budget and prepared proposal, performed preliminary record search and literature review of project area, attended the preconstruction meeting, delivered the Worker Environmental Awareness Program (WEAP) training, created a WEAP training tri-fold, scheduled monitoring personnel, monitored, and wrote the report for a storm flow drain in Rancho Santa Fe.

Project Manager/Field Paleontologist, United States General Services Administration – San Ysidro Land Port of Entry Phase 3 Project, San Diego County
Ms. DiCenzo scheduled personnel and delivered WEAP training for a re-routing, re-aligning, widening, and expansion of the inspection areas and parking facility at Mexico's El Chaparral facility at the United States/Mexico border at San Ysidro.

EDUCATION

PhD, Earth Science, University of California, Santa Barbara (2021)

Certificate in College and University Teaching, University of California, Santa Barbara (2021)

BA, Biology &
BA, Evolutionary Biology, summa cum laude, Case Western Reserve University, Cleveland, Ohio (2016)

YEARS OF EXPERIENCE

1

Andrew J. McGrath, PhD

Staff Paleontologist

Dr. McGrath has nine years of paleontological research experience, including field experience in California and Bolivia, six presentations at international conferences, and four first-author publications. Dr. McGrath earned his PhD in Earth Science in 2021 from the University of California, Santa Barbara. His dissertation involved the description of South American native ungulate and rodent fossils and analyses of their phylogenetic relationships, biochronology, and locomotory paleobiology. Since joining Rincon in July 2021, Dr. McGrath has conducted paleontological monitoring, paleontological field surveys, and desktop analyses and prepared technical documents (e.g., Environmental Impact Reports, Initial Studies, construction compliance monitoring reports, and paleontological mitigation plans).

SELECT PROJECT EXPERIENCE

Paleontologist, Blythe Mesa Solar, LLC – Blythe Mesa Solar II Project, Blythe, California

The Blythe Mesa Solar II project involves the construction of several large solar photovoltaic arrays. Dr. McGrath was responsible for scheduling paleontological monitors, cataloging fossil discoveries, ensuring environmental compliance for paleontological monitoring, and occasionally serving as a paleontological monitor.

Paleontologist, Southern California Edison Company – Cal City Substation 115 kV Upgrade Project, Kern and San Bernardino Counties, California

The Cal City Substation 115 kV Upgrade project analyzed several proposed routes for new and upgraded utility lines near California City, California. Dr. McGrath assisted in the field survey and was the primary author of the Paleontological Resources Technical Report.

Paleontologist, Stanislaus County Council of Governments – 2022 Stanislaus County Regional Transit Plan Project

Dr. McGrath prepared the paleontological resources section of the Environmental Impact Report in support of Stanislaus County's 2022 Regional Transit Plan.

Paleontologist, City of San Pablo – 3516 San Pablo Dam Road Self-Storage Project, San Pablo, California

Dr. McGrath prepared the paleontological resources analysis of the Initial Study-Mitigated Negative Declaration pertaining for a proposed self-storage facility.

Paleontological Monitor, Casitas Municipal Water District – West Ojai Avenue Pipeline Replacement Project, Ojai, California

The West Ojai Pipeline Replacement Project involves upgrading water pipeline segments that were undersized and approaching the end of their service life. Dr. McGrath monitored for paleontological resources during trenching by visually inspecting trenches and spoils for the presence of fossil remains.

OTHER PROJECT EXPERIENCE

Environmental Review Documents

- Del Valle Substation Project (Addendum to Paleontological Resources Analysis)
- Slover and Cherry Logistics Facility Project (Initial Study)
- Phase 2 Foster Park Fish Passage Improvement Project (Initial Study)
- Charolais Ranch Subdivision Project (Environmental Impact Report)
- Mesa Tanks Replacement Project (Categorical Exemption Documentation)
- Rohnert Park 2040 General Plan Update (Environmental Impact Report)
- City of Millbrae General Plan Update and Specific Plan Update (Environmental Impact Report)
- Lee Subdivision Project (Environmental Impact Report)
- Trinity County General Plan Update (Background Report)
- SoCalGas Pipeline Safety Enhancement Program—Various Projects (Draft Environmental Report)
- 200 Portage Road Condominium (Environmental Impact Report)
- Lee Subdivision Project (Environmental Impact Report)
- Coarsegold Water Treatment – Cultural Study (Paleontological Resources Assessment)
- 2022 Tulare County RTP/SCS Project (Environmental Impact Report)
- 2022 Stanislaus County RTP/SCS Project (Environmental Impact Report)
- City of Piedmont Housing Element Update (Environmental Impact Report)
- Key Energy Storage Project (Paleontological Resources Assessment)
- James Irrigation District Solar Project #1 (Initial Study)
- South Livermore Sewer Expansion Project (Initial Study)
- Cornfield Arroyo Seco Specific Plan Update (Environmental Impact Report)
- Cal City Substation 115 kV Upgrade Project (Paleontological Resources Technical Report)

Paleontological Surveys

- Del Valle Substation Project (Field Survey)
- Cal City Substation 115 kV Upgrade Project (Field Survey)

Paleontological Monitoring

- Blythe Mesa Solar II Project
- Grand Ave and Lion St Pipeline Replacement Project
- Bluffs at Ridgemark Environmental Compliance Project

SELECT PUBLICATIONS

McGrath, A.J., Chick, J., Croft, D.A., Dodson, H.E., Flynn, J.J., & Wyss, A.R. 2022. Cavioids, chinchilloids, and erethizontoids (Hystricognathi, Rodentia, Mammalia) of the early Miocene Pampa Castillo Fauna, Chile. *American Museum Novitates*, 3984: 1–46.

McGrath, A.J., Anaya, F., & Croft, D.A. 2020. New proterotheriids (Litopterna, Mammalia) from the middle Miocene of Quebrada Honda, Bolivia, and trends in diversity and body size of proterotheriid and macraucheniid litopterns. *Ameghiniana*, 57(2): 159–188.

McGrath, A.J., Flynn, J.J., & Wyss, A.R. 2020. Proterotheriids and macraucheniids (Litopterna: Mammalia) from the Pampa Castillo fauna, Chile (early Miocene, Santacrucian SALMA) and a new phylogeny of Proterotheriidae. *Journal of Systematic Palaeontology,* 18(9), 717–738.

Appendix F

Noise and Vibration Modeling

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 11/02/2022
Case Description: HRCSD WRRF Rock Breaking Noise

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
SR1	Residential	80.0	80.0	80.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	180.0	0.0
Front End Loader	No	40		79.1	180.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	69.6	65.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	68.0	64.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.6	67.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 10/05/2023
Case Description: HRCSD Effluent Pipeline -

**** Receptor #1 ****

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Single-family Residences	Residential	65.0	45.0	45.0

Description	Impact Device	Usage (%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	100.0	0.0
Excavator	No	40		80.7	100.0	0.0
Gradall	No	40		83.4	100.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Equipment	Calculated (dBA) Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq	Night Lmax	Night Leq
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	74.7	70.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Gradall	77.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	77.4	76.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Vibratory Roller	0.21	94	0.050	25
Large bulldozer	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Vibratory Roller	50	0.0980	87	0.023
Large bulldozer	50	0.0415	80	0.010
Loaded trucks	50	0.0355	76	0.007

Source
California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf. Last Updated: 10/19/2020

Cat® D350 GC DIESEL GENERATOR SETS

Standby: 60 Hz, 480V & 600V

Image shown might not reflect actual configuration

Engine Model	Cat® C13 In-line 6, 4-cycle diesel
Bore x Stroke	130mm x 157mm (5.1in x 6.2in)
Displacement	12.5 L (763 in³)
Compression Ratio	16.3:1
Aspiration	Turbocharged Air-to-Air Aftercooled
Fuel Injection System	MEUI
Governor	Electronic ADEM™ A4

Standby	Performance Strategy
350 ekW, 437.5 kVA	**EPA Certified for Stationary Emergency Application**

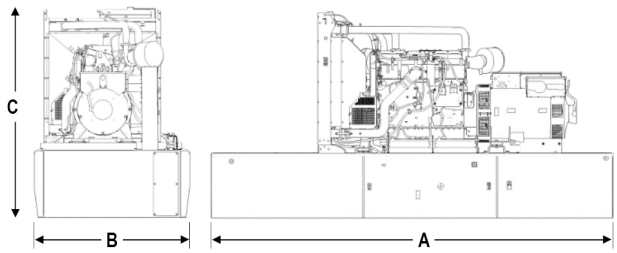
PACKAGE PERFORMANCE

Performance	Standby	
Frequency	60 Hz	
Genset Power Rating	437.50 kVA	
Gen set power rating with fan @ 0.8 power factor	350 ekW	
Emissions	EPA TIER 3	
Performance Number	EM1692	
Fuel Consumption		
100% load with fan	94.3 L/hr	24.9 gal/hr
75% load with fan	81.9 L/hr	21.6 gal/hr
50% load with fan	60.2 L/hr	15.9 gal/hr
25% load with fan	34.3 L/hr	9.1 gal/hr
Cooling System[1]		
Radiator air flow restriction (system)	0.12 kPa	0.48 in. Water
Radiator air flow	497 m³/min	17551 cfm
Engine coolant capacity	14.2 L	3.8 gal
Radiator coolant capacity	30 L	8 gal
Total coolant capacity	34 L	12 gal
Inlet Air		
Combustion air inlet flow rate	24.8 m³/min	874.4 cfm
Max. Allowable Combustion Air Inlet Temp	49 ° C	120 ° F
Exhaust System		
Exhaust stack gas temperature	571.2 ° C	1060.1 ° F
Exhaust gas flow rate	73.4 m³/min	2591.3 cfm
Exhaust system backpressure (maximum allowable)	10.0 kPa	40.0 in. water
Heat Rejection		
Heat rejection to jacket water	143 kW	8132 Btu/min
Heat rejection to exhaust (total)	360 kW	20484 Btu/min
Heat rejection to aftercooler	55 kW	3108 Btu/min
Heat rejection to atmosphere from engine	47 kW	2694 Btu/min
Heat rejection from alternator	24 kW	1382 Btu/min

Cat® D350 GC DIESEL GENERATOR SETS

Emissions (Nominal)[2]	Standby	
NOx	2274.7 mg/Nm³	4.58 g/hp-hr
CO	666.9 mg/Nm³	1.35 g/hp-hr
HC	6.2 mg/Nm³	0.01 g/hp-hr
PM	39.4 mg/Nm³	0.10 g/hp-hr
Alternator[3]		
Voltages	**480V**	**600V**
Motor Starting Capability @ 30% Voltage Dip	718	731
Current	526.2	421
Frame Size	M3115L4	M3115L4
Excitation	S E	AREP

WEIGHTS & DIMENSIONS – OPEN SET



Base	Dim "A" mm (in)	Dim "B" mm (in)	Dim "C" mm (in)	Generator Set Weight kg (lb)
Skid (Wide Base)	4625 (182.8)	1630 (64.2)	2039 (80.3)	3291 (7255.4)
Integral Tank Base	4625 (182.8)	1630 (64.2)	2456 (96.7)	3143 (6929.1)

FUEL TANK CAPACITY

Tank Design	Total Capacity		Useable Capacity	
	Litre	Gallon	Litre	Gallon
Integral	2820	744.9	2553	674.4

DEFINITIONS AND CONDITIONS

[1] For ambient and altitude capabilities consult your Cat dealer. Air flow restriction (system) is added to existing restriction from factory.

[2] Emissions data measurement procedures are consistent with those described in EPA CFR 40 Part 89, Subpart D & E and ISO8178-1 for measuring HC, CO, PM, NOx. Data shown is based on steady state operating conditions of 77° F, 28.42 in HG and number 2 diesel fuel with 35° API and LHV of 18,390 BTU/lb. The nominal emissions data shown is subject to instrumentation, measurement, facility and engine to engine variations. Emissions data is based on 100% load and thus cannot be used to compare to EPA regulations which use values based on a weighted cycle.

[3] UL 2200 Listed packages may have oversized generators with a different temperature rise and motor starting characteristics. Generator temperature rise is based on a 40° C ambient per NEMA MG1-32.

APPLICABLE CODES AND STANDARDS:

AS1359, CSA C22.2 No100-04, UL142, UL489, UL869, UL2200, NFPA37, NFPA70, NFPA99, NFPA110, IBC, IEC60034-1, ISO3046, ISO8528, NEMA MG1-22, NEMA MG1-33, 2006/95/EC, 2006/42/EC, 2004/108/EC.

Note: Codes may not be available in all model configurations. Please consult your local Cat Dealer representative for availability.

STANDBY: Output available with varying load for the duration of the interruption of the normal source power. Average power output is 70% of the standby power rating. Typical operation is 200 hours per year, with maximum expected usage of 500 hours per year.

RATINGS: Ratings are based on SAE J1349 standard conditions. These ratings also apply at ISO3046 standard conditions.

Fuel Rates are based on fuel oil of 35° API [16° C (60° F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29° C (85° F) and weighing 838.9 g/litre (7.001 lbs/U.S. gal.). Additional ratings may be available for specific customer requirements, contact your Caterpillar representative for details. For information regarding Low Sulfur fuel and Biodiesel capability, please consult your Cat dealer.

LEHE2008-04 (05-20)
www.Cat.com/electricpower

Cat® GC ENCLOSURES

Image shown might not reflect actual configuration

SOUND ATTENUATED LEVEL 2 ENCLOSURES

D250GC – D600GC

60 Hz

FEATURES

Robust / Highly Corrosion Resistant Construction

- Factory installed on skid base or tanks base
- Environmentally friendly, polyester powder baked paint
- Enclosure constructed with 18-gauge steel
- Interior zinc plated fasteners
- Internally mounted exhaust silencing system
- Comply with ASCE /SEI 7 for Wind loads up to 100mph
- Designed and tested to comply with UL 2200 Listed generator set package

Excellent Access

- Large cable entry area for installation ease.
- Accommodates side mounted single or multiple breakers.
- Two doors on both sides.
- Vertically hinged allow 180° opening rotation
- Radiator fill cover.

Security and Safety

- Lockable access doors which give full access to control panel and breaker.
- Cooling fan and battery charging alternator fully guarded.
- Fuel fill, oil fill and battery can only be reached via lockable access.
- Externally mounted emergency stop button (Optional).
- Designed for spreader bar lifting to ensure safety.
- Stub-up area is rodent proof.

Sound Attenuated Level 2

- Caterpillar white paint
- UL Listed integral fuel tank with 24 hours running time capacity (Optional).
- DC lighting package (Optional)

Cat® GC ENCLOSURES

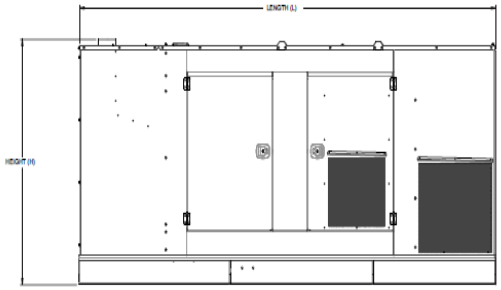
Enclosure Package Operating Characteristics

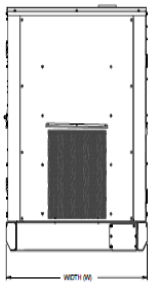
Enclosure Type	Standby ekW	Cooling Air Flow Rate		Ambient Capability*		Sound Pressure Levels (dBA) at 7m (23 ft)
		m^3/s	cfm	°C	°F	100% Load
Level 2 Sound Attenuated Enclosure (Steel)	250	6.4	13561	57	135	74
	300	6.4	13561	51	125	74
	350	7.4	15680	57	134	71
	400	7.4	15680	53	127	71
	450	8.4	17692	54	130	73
	500	8.4	17692	50	122	73
	550	11.2	23731	56	133	73
	600	11.2	23731	53	127	73

*Cooling system performance at sea level. Consult your Cat® dealer for site specific ambient and altitude capabilities.

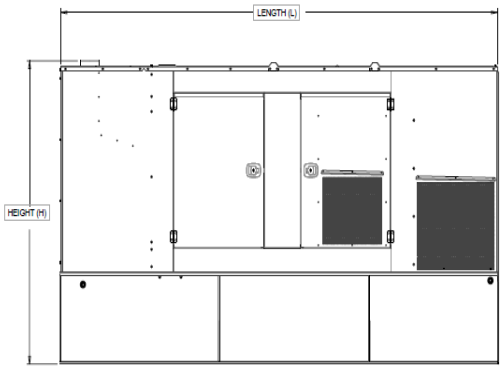
Note: Sound level measurements are subject to instrumentation, installation and manufacturing variability, as well as ambient site conditions.

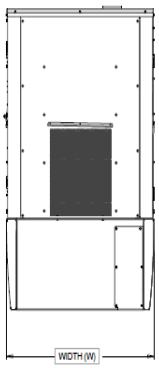
DIMENSIONS





Sound Attenuated Enclosure on Skid Base





Sound Attenuated Enclosure on a UL Listed Integral Fuel Tank Base

Image shown might not reflect actual configuration

Cat® GC ENCLOSURES

WEIGHTS & DIMENSIONS

Enclosure Type	Standby Ratings, ekW	Length, L		Width, W		Height, H		Package Weights	
		mm	in	mm	in	mm	in	kg	lb
Sound Attenuated Enclosure on Skid Base	250	3958	155.8	1440	56.7	1991	78.4	2857	6298.6
	300							2945	6492.6
	350	4633	182.4	1630	64.2	2227	87.7	3983	8781.0
	400							4017	8856.0
	450	4823	189.8	1630	64.2	2777	109.3	4408	9718.0
	500							4457	9826.0
	550	4980	196.1	1865	73.4	2723	107.2	4754	10480.8
	600							4837	10663.8
Sound Attenuated Enclosure on UL Listed Integral Fuel Tank Base	250	3958	155.8	1440	56.7	2487	97.9	3497	7709.6
	300							3585	7903.6
	350	4633	182.4	1630	64.2	2644	104.1	4765	10505.0
	400							4799	10580.0
	450	4823	189.8	1630	64.2	2777	109.3	5345	11783.7
	500							5394	11891.7
	550	4980	196.1	1865	73.4	2723	107.2	5973	13168.2
	600							6056	13351.2

LET'S DO THE WORK.™

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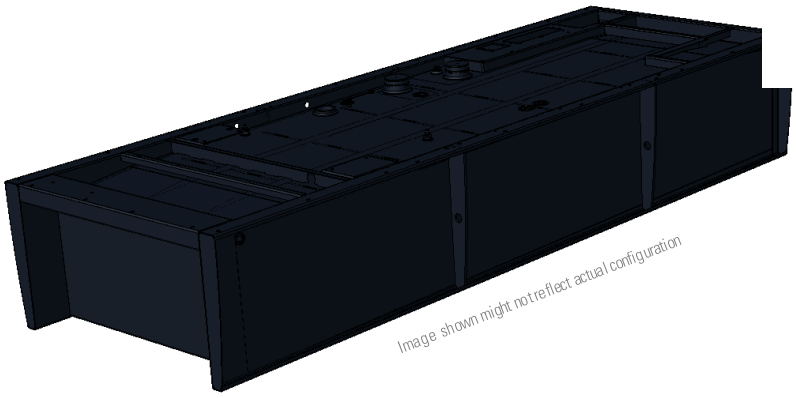
Cat® GC INTEGRAL FUEL TANKS



INTEGRAL FUEL TANKS
D250 GC – D600 GC

FEATURES

- UL Listed for United States (UL 142) and Canada (CAN/ULC S601)
- Facilitates compliance with NFPA 30 code, NFPA 37 and 110 standards and CSA C282 code
- Dual wall
- Low fuel level warning standard, customer configurable warning or shutdown
- Primary tank leak detection switch in containment basin
- Tank design provides capacity for thermal expansion of fuel
- Fuel supply dip tube is positioned so as not to pick up fuel sediment
- Fuel return and supply dip tube is separated by an internal baffle to prevent immediate re-supply of heated return fuel
- Pressure washed with an iron phosphate solution
- Interior tank surfaces coated with a solvent-based thin-film rust preventative
- Heavy gauge steel gussets with internal lifting rings
- Primary and secondary tanks are leak tested at 20.7 kPa (3 psi) minimum
- Compatible with open packages and enclosures
- Gloss black polyester alkyd enamel exterior paint
- Welded steel containment basin (minimum of 110% of primary tank capacity)
- Direct reading fuel gauge with variable electrical output
- Emergency vents on primary and secondary tanks are sized in accordance with NFPA 30.

INTEGRAL

- Integral diesel fuel tank is incorporated into the generator set base frame
- Robust base design includes linear vibration isolators between tank base and engine generator.

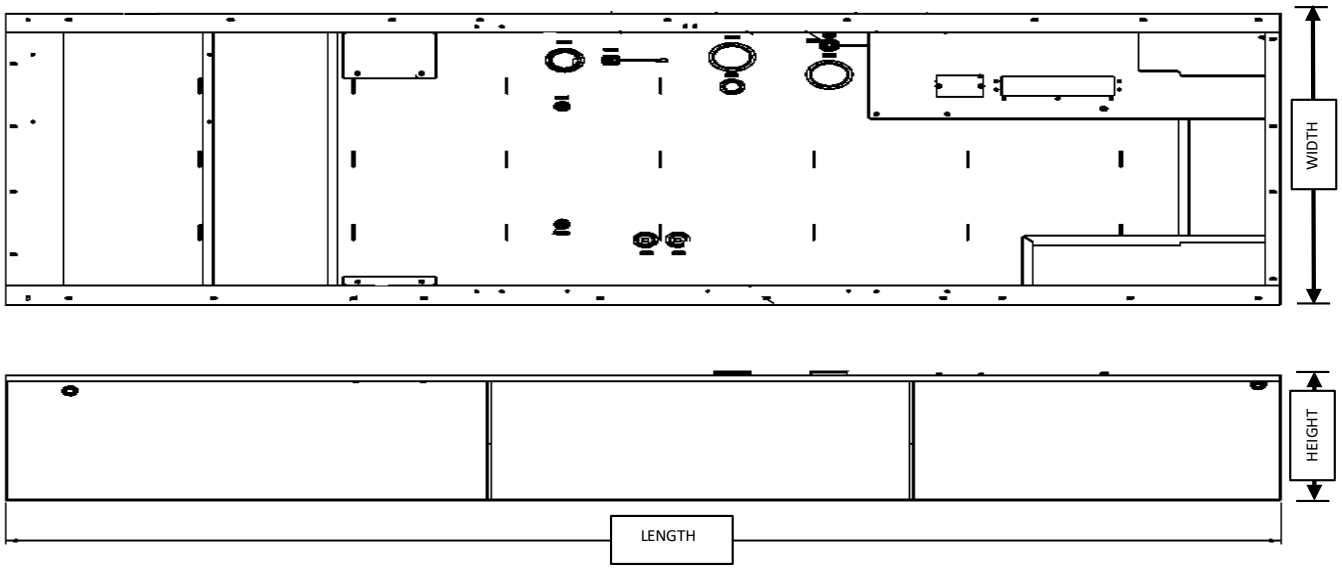
OPTIONS

- Audio/visual fuel level alarm panel
- 5gal (18.9 L) spill containment*
- Locking Fuel Fill
- Overfill prevention Valve*

*Applicable for D350GC-D600GC Models only

Integral Fuel Tank Base Useable Capacities with Fuel Tank Dimensions & Weights

Standby ekW	Width mm	Width in
250-300	1430	56.3
350-400	1630	64.1
450-500	1630	64.1
550-600	1865	73.4



The heights listed above do not include lumber used during manufacturing and shipping

A. Open Set & Sound Attenuated Enclosure

Tank Design	Feature Code	Total Capacity		Useable Capacity		Tank Only						Overall Package Height with Tank			
						Dry Weight		Height 'H'		Length 'L'		Open		Enclosure	
		Litre	Gallon	Litre	Gallon	kg	lb	mm	in	mm	in	mm	in	mm	in
Integral Tank	FTDW035	2270.7	599.8	2059.9	543.9	970	2138	762.4	30.0	3958	155.8	2202	86.7	2487	97.9
	FTDW036	2820	744.9	2553	674.4	1165	2568	818.8	32.2	4815	189.5	2584	101.7	2644	104
	FTDW037	3671	969.7	3323	877.8	1331	2934	668.2	26.3	4622	181.9	2456	96.7	2644	104
	FTDW038	4292	1133.8	3889	1027.3	1657	3653	816.4	32.1	4980	196	2560	100.7	2721	107.1

B. Estimated Run Time (Hours)

Tank Design	Feature Code	Standby Ratings (kVA)						
		ekW	100%		75%		50%	
			Hrs	L/hr	Hrs	L/hr	Hrs	L/hr
Integral Tank	FTDW035	250	28.1	73.3	35	58.8	47	43.8
		300	24	86.0	30.8	66.8	40	51.5
	FTDW036	350	27.1	94.3	31.2	81.9	42.4	60.2
		400	24.1	105.9	28.1	90.7	38.6	66.2
	FTDW037	450	25.2	131.7	31.3	106.1	42.0	79.1
		500	24.3	137	30.1	110.5	46.6	71.3
	FTDW038	550	25.7	151.1	32.9	118.1	45.2	86.1
		600	24.1	161.6	30.0	129.6	42.4	91.7

Tanks with full electrical stub-up area include removable end channel. Tanks with RH stub-up include stubup area directly below the circuit breaker or power terminal strips.

Fuel tanks and applicable options facilitate compliance with the following United States NFPA Code and Standards:

NFPA 30: Flammable and Combustible Liquids Code

NFPA 37: Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines

NFPA 110: Standard for Emergency and Standby Power Systems

Fuel tanks and applicable options facilitate compliance with the following Canadian Standard and Code:

CSA C282 – Emergency Electrical Power Supply for Buildings

CSA B139-09 – Installation Code for Oil-Burning Equipment

Cat® GC Control Panel

Image shown might not reflect actual configuration

GCCP 1.2 - Control Panel

GCCP 1.2 is an auto Start Control Module suitable for a wide variety of diesel gen-set applications. Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

FEATURES

- 4-line back-lit LCD text display
- Multiple display languages
- Five-key menu navigation
- LCD alarm indication
- Customisable power-up text and images
- Data logging facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB & RS485 communication
- Front panel configuration with PIN protection
- Power save mode
- 3-phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload and reverse power alarms
- Over current protection
- Unbalanced load protection
- Breaker control via fascia buttons
- Fuel and start outputs configurable when using CAN
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- 8 configurable digital inputs (3 available for Customer use)
- 8 configurable digital outputs (5 available for Customer use)
- 4 configurable analogue outputs (3 available for Customer Use)
- CAN, MPU and alternator frequency speed sensing in one variant
- Real time clock
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting &stopping
- Fuel usage monitor and low fuel level alarms
- 3 configurable maintenance alarms

BENEFITS

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.
- RS485 Communication port can be used for the Remote Monitoring Communication (Compatible with Cat PLG)

SPECIFICATION

DC SUPPLY
CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous
5 V for upto 1 minute

CRANKING DROPOUTS
Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries.
LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT
260 mA at 12 V, 150 mA at 24 V

MAXIMUM STANDBY CURRENT
145 mA at 12 V, 85 mA at 24 V

CHARGE FAIL/EXCITATION RANGE
0 V to 35 V

GENERATOR & MAINS (UTILITY) VOLTAGE RANGE
15 V to 415 V AC (Ph to N)
26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICKUP VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE
10,000 Hz (max)

INPUTS
DIGITAL INPUTS A TO H
Negative switching

ANALOGUE INPUTS A & D
Configurable as:
Negative switching digital input 0 V to 10 V sensor
4 mA to 20 mA sensor Resistive sensor

ANALOGUE INPUTS B & C
Configurable as:
Negative switching digital input Resistive sensor

OUTPUTS
OUTPUT A & B (FUEL & START)
15 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E, F, G & H
2 A DC at supply voltage

DIMENSIONS OVERALL
216 mm x 158 mm x 43 mm
8.5" x 6.2" x 1.5"

PANEL CUT-OUT
184 mm x 137 mm
7.2" x 5.3"

MAXIMUM PANEL THICKNESS
8 mm
0.3"

STORAGE TEMPERATURE RANGE
-40°C to +85°C
-40 °F to +185 °F

OPERATING TEMPERATURE RANGE
-30°C to +70°C
-22 °F to +158 °F