APPENDIX G/INITIAL STUDY FOR A MITIGATED NEGATIVE DECLARATION

Environmental Checklist Form for:
Pump Station 290A (WC00016)

1.	**Project Title:** Pump Station 290A
2.	**Lead Agency Name and Address:** City of Fresno 2600 Fresno Street Fresno, CA 93721
3.	**Contact Person and Phone Number:** Kimberly Sandoval, Engineer 1 City of Fresno Utilities and On-Site Project Management Capital Projects Department (559) 621-8846
4.	**Project Location:** The Project site consists of a 0.29-acre undeveloped parcel (Assessor's Parcel Number [APN] 415-251-09S) located at 2792 West San Madele Avenue at the northeast corner of West San Madele and North Marks Avenues in unincorporated Fresno County, California (Figure 1).
5.	**Project Sponsor's Name and Address:** City of Fresno 2600 Fresno Street Fresno, CA 93721
6.	**General and Community Plan Land Use Designation:** County of Fresno General Plan: Single Family, Low Density Residential (R1B) City of Fresno General Plan and Bullard Area Community Plan: Medium-Low Density Residential (2.19–6.00 dwelling units/acre) (RS-4)
7.	**Zoning:** County of Fresno Zoning Ordinance: Single Family, Low Density Residential with Neighborhood Beautification Overlay Zone[1] (R1B NB)

[1] NB (Neighborhood Beautification) Overlay Zone. The Neighborhood Beautification Overlay zone is intended to protect and preserve the integrity of Fresno County neighborhoods within designated unincorporated areas that have a history of and reputation for well-kept properties. The general welfare of Fresno County and its neighborhoods is founded, in part, upon the appearance and maintenance of private properties and tree-lined streets.

8.	**Description of Project:** The City of Fresno (City) is proposing the Pump Station 290A Project (Project) to construct a new water well on a 0.29-acre portion of an undeveloped residential parcel located at 2792 West San Madele Avenue in unincorporated Fresno County (Project site). The Project site is on City-owned land and within the boundaries of the City's Sphere of Influence (SOI) and Bullard Area Community Plan. The purpose of the proposed Project is to replace an existing water well located at 5181 North Van Ness Avenue (referred to as Pump Station 290), which produced 900 gallons per minute (gpm) and was taken out of service and destroyed due to sand production problems and non-compliance with modern sanitary well construction standards. The proposed Project includes the following three phases: • Phase 1: Well drilling, well development, and aquifer testing; • Phase 2: Site improvements; and • Phase 3: Installation of wellhead treatment facilities. *Phase 1: Well Drilling, Well Development, and Aquifer Testing* Phase 1 includes construction of the new well, well drilling, well development, aquifer testing, and construction of associated on-site improvements. A 30-inch-diameter borehole would first be drilled with reverse rotary drilling equipment. The well would then be completed by installing the well casing, gravel pack, and a sand-cement sanitary seal. A development tool would be used to clean the drilling fluids and fines (i.e., clay and silts) from the water-bearing strata. Additional development would be accomplished by pumping and surging large quantities of water from the well to remove fine particles from the well screen, gravel, and borehole wall. Well development would use approximately 3.6 million gallons of water. A 24-hour pump test would be performed to evaluate the hydraulic characteristics of the aquifer and establish the pumping capacity of the well. During the pump test, water samples would be taken from the well to determine water quality. Aquifer testing would use approximately 2.4 million gallons of water. Finally, a concrete pedestal would be constructed in accordance with the California Department of Water Resources (DWR) California Well Standards, Combined (DWR Bulletin 74-81[2] and Bulletin 74-90[3]), and the well would be securely capped until the construction of associated site improvements, as described in Phase 2.

[2] California Department of Water Resources (DWR). 1981. *Bulletin 74-81, Water Well Standards: State of California*. State of California The Resources Agency, Department of Water Resources, Department of Water Resources. December. Available at: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards. Accessed May 2025.

[3] California Department of Water Resources (DWR). 1991. *Bulletin 74-90, California Well Standards (Supplement to Bulletin 74-81)*. June. Available at: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards. Accessed May 2025.

Phase 2: Site Improvements

Phase 2 includes the construction of associated on- and off-site improvements to bring the well to an operational state. The proposed Project includes the construction of a combination of masonry block wall and steel pickets along the perimeter of the Project site to secure the new pump station, as well as a new equipment building featuring the same combination of materials. The aquifer pump test would be used to inform the sizing of the new pump, motor, and discharge line that would be installed on the well. The new well would require construction of a new discharge line that would connect to the existing water main alongside the Project site. The proposed Project is expected to connect to the existing water and wastewater infrastructure and service; however, a new water and/or wastewater service may be required. A new electrical service and transformer would also be required. In addition, drought-tolerant landscaping would be installed along the frontage of the property and a new security light would be installed on the equipment building.

The proposed Project also includes the construction of off-site right-of-way (ROW) improvements including, but not limited to, curb and gutter, street paving, and sidewalks as required. Proposed ROW improvements would be constructed in accordance with the City's standards, specifications, and policies.

Phase 3: Wellhead Treatment Facilities

The pump station would be sized and configured to accept water remediation facilities, primarily an Iron and Manganese filtration system and Granulated Activated Carbon (GAC) filtration system, in the event future treatment is required. Treatment is typically only required if synthetic organic compounds, such as agricultural pesticides (1,2-Dibromo-3-chloropropane [DBCP], ethylene dibromide [EDB], etc.) or industrial solvents (perchloroethylene [PCE], trichloroethylene [TCE], etc.), are detected in the groundwater at concentrations exceeding the maximum allowable contaminant levels set by the U.S. Environmental Protection Agency (USEPA) and/or California State Water Resources Control Board (State Water Board).

If required to maintain adequate water supply in the area, Phase 3 might also include the installation of an emergency generator.

If required to address water contamination and water quality concerns, either Granular Activated Carbon (GAC) filtration, Iron Manganese filtration systems, or air strippers would be installed to support the new well.

- GAC Filtration: If required to address water contamination, GAC filtration vessels may be installed on the Project site. Additional piping would be installed to direct raw water from the well to the GAC vessels where it would be filtered before it is conveyed to the distribution system.
- Iron Manganese Filtration: If required to address water contamination, Iron and Manganese filtration vessels may be installed on the Project site. Additional piping would be installed to direct raw water from the well to the Iron and Manganese filtration vessels where it would be filtered before it is conveyed to

the distribution system. A filtration system would be designed and built as a package in accordance with the well's pumping capacity. A similar system has been previously approved and operated at Pump Station 168, located at 10163 North Maple Avenue.

- Air Strippers: If required to address water quality concerns, air strippers may be installed on the Project site. Additional piping will be installed to direct raw water from the well to the air strippers, which will then move air through the contaminated water to remove chemicals or volatile organic compounds (VOCs). A similar system has been previously approved and installed at Pump Station 117, located at 6027 North Glenn Avenue. The air stripping facilities would be properly permitted by all appropriate agencies.

If required to maintain adequate water supply in the distribution system or if critical water-consuming facilities are built in the immediate vicinity of the new pump station, an emergency generator would be installed on-site, approximately 30 feet from the nearest residence. The generator would be properly permitted by all appropriate agencies (i.e., San Joaquin Valley Air Pollution Control District [SJVAPCD]). In addition, the proposed generator would have a 660-gallon capacity and would produce approximately 350 electric kilowatts (ekW). Phase 3 would only be implemented and one or more of these facilities would be installed if and when they are deemed necessary by the City upon evaluation of existing characteristics in the distribution system, funding factors, and need.

Construction

Construction activities would result in approximately 0.29 acre of ground disturbance, including approximately 135 cubic yards (CY) of cut and 38 CY of fill. The maximum depth of excavation would include 900 feet for drilling of the proposed well and 3 feet for general site improvements. The proposed Project would result in approximately 1,251 square feet of new paved area. The proposed Project would require the removal of approximately four ornamental trees. To the extent feasible, construction activities would be conducted during daytime hours (7:00 a.m.–10:00 p.m.); however, nighttime work over approximately 10 nights may be necessary for well drilling. The construction staging area would be located within the Project site. A temporary sound barrier(s) would be installed to reduce noise during well-drilling activities. The specifications for the sound barrier(s) would be finalized and provided by the contractor once awarded. The temporary sound barrier(s) is expected to be freestanding; therefore, pile driving would not be necessary. Typical installation methods include sandbags to stabilize the base of the structure or attachment to k-rail. The exact placement of the sound barrier(s) would be determined by the contractor but is expected to be along the property lines adjacent to sensitive receptors within the Project site's proposed disturbance area.

Phase 1: Well Drilling, Well Development, and Aquifer Testing

Phase 1 of the proposed Project would be conducted over a period of 45 working days beginning in March 2026 and ending in May 2026. Project construction would be

conducted by approximately eight construction workers per day and would require approximately 13 vehicle trips to and from the Project site each day. Construction activities are anticipated to be conducted by members of the local workforce. Construction equipment would include one reverse rotary drill rig, one boom truck, four utility trucks, two trailers, two dump trucks, one forklift, one excavator, two skid steerers, one air compressor, one water pump, and one temporary generator.

Phase 2: Site Improvements

Phase 2 of the proposed Project would be conducted over a period of 60 working days beginning in May 2028 and ending in July 2028. Project construction would be conducted by approximately 11 construction workers and would require approximately 13 vehicle trips to and from the Project site each day. Construction activities are anticipated to be conducted by members of the local workforce. Construction equipment would include two skid steerers, four cement trucks, one backhoe, one excavator, one water truck, three dump trucks, one roller, four utility trucks, one trailer, one drill rig, one air compressor, one boom truck, one forklift, and one loader.

Phase 3: Wellhead Treatment Facilities

If necessary, Phase 3 of the proposed Project would be conducted over a period of 60 working days to be scheduled as necessary, if treatment is required. The number of construction workers, number of estimated vehicle trips, and number and type of construction equipment would be dependent on the type of treatment deemed necessary, if any. For purposes of this analysis, a conservative estimate of construction activities was analyzed, as follows. Project construction would be conducted by an estimated maximum of 11 construction workers per day and would require an estimated maximum of 13 vehicle trips to and from the Project site each day. Construction activities are anticipated to be conducted by members of the local workforce. Construction equipment is anticipated to include two skid steerers, one backhoe, one excavator, one water truck, four utility trucks, one trailer, one forklift, one loader, and one cement truck.

Operation

The new production well at the proposed Pump Station 290A would pump groundwater into the City's water distribution system, ensuring a safe and reliable source of drinking water for City residents. The purpose of the proposed Project is to replace an existing water well located at 5181 North Van Ness Avenue (referred to as Pump Station 290), which produced 900 gpm and was taken out of service and destroyed due to sand production problems and non-compliance with modern sanitary well construction standards. Once operational and the flow rate is determined to be sufficient, the proposed well may also replace other wells in the area as they are taken out of service. The proposed Project does not include any decommissioning activities at other well sites in the City.

The proposed replacement well is expected have an estimated production capacity of 1,500 gpm. The well would constantly be monitored through supervisory control and

data acquisition (SCADA) instrumentation, which measures performance indicators such as well drawdown, water flow, and pressure.

Proposed maintenance activities would include an average of one maintenance trip per week, with additional maintenance trips as needed. Maintenance activities would be conducted by a licensed well or pump contractor and general site maintenance would be performed by existing City staff.

9. **Surrounding land uses and setting:**

	Planned Land Use	Existing Zoning	Existing Land Use
North	City: RS-4	City: RS-4	City: RS-4
East	County: R1B NB	County: R1B NB	County: R1B NB
South	County: R1B NB	County: R1B NB	County: R1B NB
West	City: RS-4	City: RS-4	City: RS-4

10. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

- San Joaquin Valley Air Pollution Control District (SJVAPCD) (e.g., Dust Control Plan Approval letter and compliance with Rule 9510 – Indirect Source Review)

11. **Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) Section 21080.3.1? If so, has consultation begun?**

The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the California Environmental Quality Act (CEQA) Guidelines. Pursuant to PRC Section 21080.3.1, before public distribution of the document, the lead agency shall begin consultation with the California Native American Tribe that is traditionally and culturally affiliated with the geographical area of the proposed project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a Tribe that is either in or eligible for inclusion in the California Register of Historical Resources (CRHR) or a local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)). According to the most recent census data, California is home to 109 currently recognized Tribes. Tribes in California currently have nearly 100 separate reservations or Rancherias. Fresno County has a number of Rancherias such as Table Mountain Rancheria, Millerton Rancheria, Big Sandy Rancheria, Cold Springs Rancheria, and Squaw Valley Rancheria. These Rancherias are not located within the City limits.

	Conducting consultation early in the CEQA process allows Tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to Tribal Cultural Resources, and reduce the potential for delay and conflict in the environmental review process. (See PRC Section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's (NAHC) Sacred Lands File (SLF) per PRC Section 5097.96 and the California Historical Resources Information System (CHRIS) administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality. Pursuant to Assembly Bill (AB) 52, Native American Tribes traditionally and culturally affiliated with the Project area were invited to consult regarding the proposed Project based on a list of contacts provided by the NAHC. The City mailed notices of the proposed Project to each of these Tribes on June 17, 2025, which included the required 30-day time period for Tribes to request consultation, which ended on July 17, 2025. All Tribes that were contacted declined consultation.

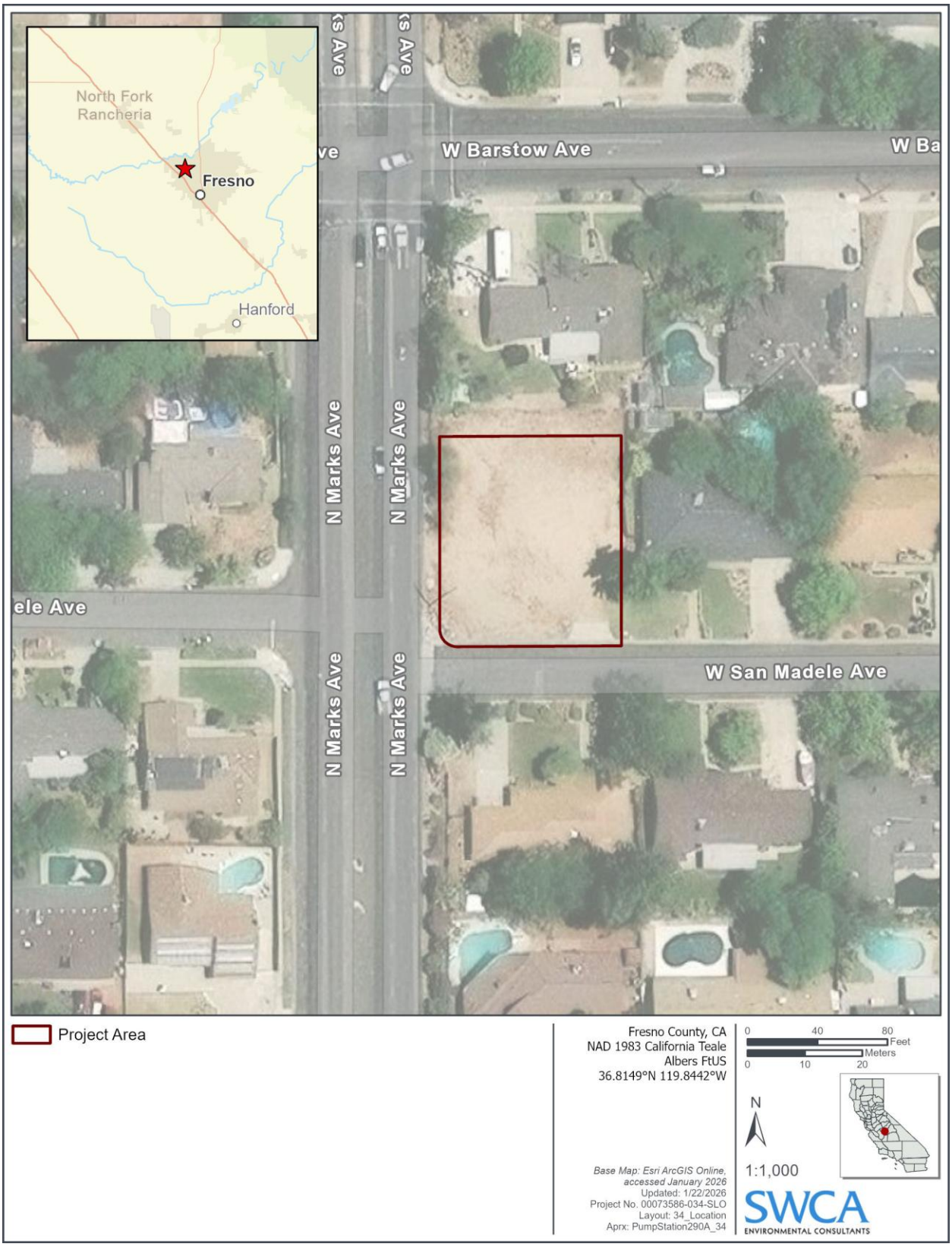

Figure 1. Project Location Map.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" 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 and 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		

DETERMINATION: (To be completed by the Lead Agency)

On the basis of 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.
_X_	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 in 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 (EIR) is required.
___	I find that the proposed project MAY have a “potentially significant impact” or “potentially significant unless mitigated” 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 EIR 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 potentially 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.

Planner Name, Title Date

EVALUATION OF ENVIRONMENTAL IMPACTS

1. For purposes of this Initial Study, the following answers have the corresponding meanings:
    a. “No Impact” means the specific impact category does not apply to the project, or that the record sufficiently demonstrates that project specific factors or general standards applicable to the project will would result in no impact for the threshold under consideration.
    b. “Less Than Significant Impact” means there is an impact related to the threshold under consideration, but that the potential impact is would be less than significant.
    c. “Less Than Significant with Mitigation Incorporation” means there is a potentially significant impact related to the threshold under consideration, however, with the mitigation incorporated into the project, the impact is less than significant.
    d. “Potentially Significant Impact” means there is substantial evidence that an effect resulting from the proposed project may be significant related to the threshold under consideration.
2. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
3. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

4. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
5. "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from, "Earlier Analyses," as described in (6) below, may be cross-referenced).
6. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
    a. Earlier Analysis Used. Identify and state where they are available for review.
    b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
7. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
8. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
9. The explanation of each issue should identify:
    a. The significance criteria or threshold, if any, used to evaluate each question; and
    b. The mitigation measure identified, if any, to reduce the impact to less than significance.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS – Except as provided in PRC Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock out-croppings, and historic buildings within a state scenic highway?				X
c) In non-urbanized areas, substantially degrade the existing visual character or quality public views of the site and its surroundings? (Public views are those that are experienced from 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?			X	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		X		

DISCUSSION

a) Have a substantial adverse effect on a scenic vista?

No Impact. A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the public's benefit. The City's 2014 *Fresno General Plan*[4] identifies six locations along the San Joaquin River bluffs as designated vista points that provide distant views of features such as the San Joaquin River to the north and the foothills of the Sierra Nevada mountains to the east. The Project site is not located within any of the scenic vista points identified in the City's General Plan. Furthermore, the proposed Project is limited to the development of a well with limited aboveground components in a developed portion of the City and would not significantly affect or

[4] City of Fresno. 2014a. *Fresno General Plan*. Adopted December 18. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp_Consolidated-GP-10-13-2022_compressed.pdf. Accessed April 2025.

block a potentially scenic vista in the City. Therefore, *no impact* would occur, and mitigation is not required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. According to the California Department of Transportation (Caltrans) State Scenic Highway Mapping System,[5] there are no eligible or officially designated State Scenic Highways within the City of Fresno. Fresno County has three eligible State Scenic Highways, and the nearest eligible highways include a portion of State Route (SR) 180, located approximately 7 miles east of the City, and a portion of SR 168, located approximately 5 miles east of City. The nearest officially designated State Scenic Highway is located more than 30 miles northeast of the City within Madera County. Since there are no eligible or officially designated State Scenic Highways within or in close proximity to the Project site and the proposed Project would be limited to the development of a well with limited aboveground components in a developed portion of the City, implementation of the proposed Project would not damage scenic resources within a designated State Scenic Highway. Therefore, *no impact* would occur, and mitigation is not required.

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 publicly accessible vantage point). If the project is in an urbanized area, conflict with applicable zoning and other regulations governing scenic quality?

Less Than Significant Impact. The Project site is located in an urbanized area and consists of an undeveloped 0.29-acre parcel that was previously developed with a residence. The Project site has been cleared and is highly disturbed and characterized by mostly bare ground with sparce ruderal vegetation. Surrounding land uses include single-family residential units to the north, south, east, and west. The Project site and surrounding area are characterized by relatively flat topography, and scattered ornamental trees are located along the perimeter of the Project site and within the front and back yards of surrounding residential units. There are no surface water features located within or adjacent to the Project site.

The proposed Project would result in the construction of a new water well and associated on- and off-site improvements, including the construction of a combination of masonry block wall and steel pickets along the perimeter of the site to conceal the new water well. The GAC vessels would be placed in a pit 5 feet below grade to minimize their appearance from surrounding properties. Additionally, a new equipment building would be constructed of a combination of masonry block wall and steel pickets. The proposed Project also includes the construction of off-site ROW improvements, including, but not limited to, curb and gutter, street paving,

[5] California Department of Transportation (Caltrans). 2025. Scenic Highways. Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed April 2025.

landscaping, and sidewalks as required. The frontage of the property would be landscaped with drought-tolerant landscaping. The City's primary goal is to maintain site security and conceal the well, equipment building, and associated improvements from the viewshed of surrounding roadways and properties. Proposed ROW improvements would be constructed in accordance with the City's standards, specifications, and policies.

The proposed Project includes the development of a new well and associated on- and off-site improvements, and aboveground components would be limited to a masonry block wall, equipment building, landscaping, and at-grade roadway improvements. The proposed Project would not introduce new architectural features or other components that could alter the existing visual character of the Project site and surrounding area. Further, proposed on- and off-site improvements would be required to comply with the City Public Works Department Standard Specifications[6] to ensure consistency with City design standards and existing development in the City. As discussed in *Impact Discussion I.d),* the proposed Project would not create a new source of substantial light or glare. The proposed Project would not substantially degrade the existing visual character or quality of public views of the Project site and its surroundings. Therefore, impacts would be *less than significant*, and mitigation is not required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant with Mitigation Incorporated. The Project site is located in an urbanized area subject to preexisting exterior lighting from surrounding residential developments. The proposed Project includes the installation of a new security light on the equipment building. All new outdoor lighting would be required to comply with Section 15-2015 (Outdoor Lighting and Illumination) of the City's Municipal Code, be used for illumination purposes only, and be pointed downward to prevent light spillover onto surrounding land uses. Based on compliance with the City's Municipal Code, the proposed Project would not create a new permanent source of light and glare. To the extent feasible, construction activities would be conducted during daylight hours (7:00 a.m.–10:00 p.m.) to avoid the use of nighttime lighting. However, nighttime work over approximately 10 nights may be necessary for well drilling. A temporary sound barrier(s) would be installed to reduce noise during well-drilling activities. The specifications for the sound barrier(s) would be finalized and provided by the contractor once awarded. The exact placement of the sound barrier(s) would be determined by the contractor but is expected to be along the property lines adjacent to sensitive receptors within the Project site's proposed disturbance area. The sound barrier is expected to reduce the impact of temporary sources of nighttime lighting from surrounding land uses. However, since the exact specifications of the sound barrier are currently unknown, Mitigation Measure AES-1 identifies performance standards for temporary outdoor lighting to ensure that any temporary nighttime

[6] City of Fresno. 2021b. *Standard Specifications*. City of Fresno Department of Public Works. March 5. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/City-of-Fresno-Standards-Vol-2-Std.-Specifications_Mar-2021-Accessible.pdf. Accessed April 2025.

lighting used during the construction period would be installed below the height of the temporary sound barrier and directed downward toward the Project site to avoid spillover into the surrounding properties. All other construction activities would occur during daylight hours and would not require the use of nighttime lighting. With implementation of Mitigation Measure AES-1 to reduce address temporary sources of nighttime lighting, the proposed Project would not create a new source of light or glare. Therefore, impacts would be *less than significant with mitigation*.

Mitigation Measures

AES-1 For the construction phase of the Project, the following performance standards for outdoor lighting shall be implemented to ensure that nighttime lighting does not spill over into surrounding residential land uses:

1. The height of lighting fixtures shall be less than the height of the temporary sound barrier that will be installed on-site; and
2. Lighting fixtures shall be directed downward toward the Project site.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES – In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
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?				X

DISCUSSION

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

No Impact. The entire Project site is underlain by land designated by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP)[7] as "Urban and Built-Up Land." Implementation of the proposed Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. Therefore, *no impact* would occur, and mitigation is not required.

b) Conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. The Project site is designated Medium-Low Density Residential in the City's General Plan; Single-family, Low-Density Residential in the County of Fresno Zoning Ordinance; and Single Family, Low Density Residential in the County of Fresno General Plan. The surrounding land is in the Residential Multi-Family, Medium

[7] California Department of Conservation. 2022. California Important Farmland Finder. Available at: https://maps.conservation.ca.gov/DLRP/CIFF/. Accessed April 2025.

Low Density zone district in the City's General Plan and Single-family, Low-Density Residential zone in the County of Fresno Zoning Ordinance. The Project site is not within the Agriculture zone district and is not subject to a Williamson Act contract. The proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract. Therefore, *no impact* would occur, and mitigation is not required.

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))?

No Impact. The Project site is zoned as Single-family, Low-Density Residential in the County of Fresno Zoning Ordinance and is not within forest land, timberland, or timberland production land use or zoning designations. The proposed Project would not conflict with the zoning, or cause rezoning of, designated forest land, timberland, or timberland production. Therefore, *no impact* would occur, and mitigation is not required.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. Please refer to *Impact Discussion II.c)*. The proposed Project would not result in the loss of forest land or conversion of forest land to non-forest uses because the Project site is not forested nor is it located near a forested area. Therefore, *no impact* would occur, and mitigation is not required.

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?

No Impact. Please refer to *Impact Discussions II.a)* and *II.c)*. The Project site is located in an existing urbanized area and would not result in the conversion of farmland to non-agricultural uses or forest land to non-forest uses. Further, current groundwater recharge conditions are adequate to account for the increase in groundwater pumping associated with the proposed Project, and the proposed Project would not substantially reduce groundwater for agricultural uses. Therefore, *no impact* would occur, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
III. AIR QUALITY – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan (*e.g.*, by having potential emissions of regulated criterion pollutants which exceed the San Joaquin Valley Air Pollution Control District's (SJVAPCD) adopted thresholds for these pollutants)?			X	
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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			X	
c) Expose sensitive receptors to substantial pollutant concentrations?		X		
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			X	

DISCUSSION

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

Less Than Significant Impact. CEQA requires that certain proposed projects be analyzed for consistency with the applicable air quality plan. An air quality plan describes air pollution control strategies to be implemented by a city, county, or region classified as a non-attainment area. The main purpose of the air quality plan is to bring the area into compliance with the requirements of the federal and State air quality standards. The City of Fresno is located within the San Joaquin Valley Air Basin (SJVAB) and is under the jurisdiction of the SJVAPCD. The SJVAB is designated as Nonattainment-Extreme for the 8-hour ozone standard, Maintenance-Serious for the

particulate matter less than 10 microns in diameter (PM_{10}) standard, and Nonattainment-Moderate for the particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) standard under the National Ambient Air Quality Standards (NAAQS) and as Nonattainment for the 1-hour and 8-hour ozone standards and the PM_{10} and $PM_{2.5}$ standards under the California Ambient Air Quality Standards (CAAQS).

To bring the SJVAB into attainment, the SJVAPCD adopted the *2022 Plan for the 2015 8-Hour Ozone Standard*[8] in December 2022 to satisfy Clean Air Act requirements and ensure attainment of the 75 parts per billion (ppb) 8-hour ozone standard. To assure the SJVAB's continued attainment of the U.S. Environmental Protection Agency (USEPA) respirable particulate matter (PM_{10}) standard, the SJVAPCD adopted the *2023 Maintenance Plan and Redesignation Request for the Revoked 1-Hour Ozone Standard* (2023 Maintenance Plan).[9] SJVAPCD Regulation VIII (Fugitive PM_{10} Prohibitions) is designed to reduce PM_{10} emissions generated by human activity. The SJVAPCD adopted the *2024 Plan for the 2012 $PM_{2.5}$ Standard* (2024 $PM_{2.5}$ Plan)[10] to address the USEPA federal annual $PM_{2.5}$ standard of 12 micrograms per cubic meter (12 µg/m^3), established in 2012.

The SJVAPCD has established project construction and operational emissions thresholds for criteria pollutants, as shown in Table 1.[11] For a project to be consistent with SJVAPCD attainment plans, the pollutants emitted from project operation shall not exceed the SJVAPCD daily thresholds or cause a significant impact on air quality, or the project must already have been included in the attainment plans projection. Estimated construction and operational air quality emissions were calculated for the proposed Project using the California Emissions Estimator Model (CalEEMod) (Appendix A).[12] As shown below, emissions associated with the construction or operation of the proposed Project would not result in the generation of criteria air pollutants that would exceed SJVAPCD thresholds of significance.

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[8] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2022. *2022 Plan for the 2015 8-Hour Ozone Standard*. Available at: https://ww2.valleyair.org/media/q55posm0/0000-2022-plan-for-the-2015-8-hour-ozone-standard.pdf. Accessed April 2025.

[9] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2024. *2024 Plan for the 2012 $PM_{2.5}$ Standards*. June 20. Available at: https://ww2.valleyair.org/media/gw5bacvj/2024-pm25-plan.pdf. Accessed April 2025.

[10] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2024. *2024 Plan for the 2012 $PM_{2.5}$ Standards*. June 20. Available at: https://ww2.valleyair.org/media/gw5bacvj/2024-pm25-plan.pdf. Accessed April 2025.

[11] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. *Air Quality Thresholds of Significance – Criteria Pollutants*. Available at: http://www.valleyair.org/transportation/0714-GAMAQI-Criteria-Pollutant-Thresholds-of-Significance.pdf. Accessed April 2025.

[12] California Air Pollution Control Officers Association (CAPCOA). 2024. California Emissions Estimator Model (CalEEMod). Available at: https://www.caleemod.com/. Accessed April 2025.

Table 1: SJVAPCD Project Construction and Operational Emission Thresholds

	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$
Annual Construction Emissions*	100.0	10.0	10.0	27.0	15.0	15.0
Annual Operational Emissions*	100.0	10.0	10.0	27.0	15.0	15.0

Source: SJVAPCD (2015)

* Emission units = Tons per Year (tpy)

Notes: CO = carbon monoxide; NO_X = nitrogen oxides; ROG = reactive organic gas; SO_X = sulfur oxides

Construction and operational emissions for the proposed Project were analyzed using CalEEMod. Model results for construction and operational emissions are shown in Table 2 and Table 3, respectively.

Table 2: Project Construction Emissions (Tons Per Year)

Project Construction	CO	NO_X	ROG	SO_x	PM_{10}	$PM_{2.5}$
Annual Construction Emissions*	1.55	1.07	0.11	<0.005	0.88	0.12
SJVAPCD Thresholds	100.0	10.0	10.0	27.0	15.0	15.0
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SJVAPCD (2015)

* Emission units = Tons per Year (tpy)

Notes: CO = carbon monoxide; NO_X = nitrogen oxides; ROG = reactive organic gas; SO_X = sulfur oxides

Table 3: Project Operational Emissions (Tons per Year)

	ROG	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Annual Project Operational Emissions*	0.08	0.22	0.20	<0.005	0.01	0.01
SJVAPCD Significance Threshold	10.0	10.0	100.0	27.0	15.0	15.0
Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: SJVAPCD (2015)

* Emission units = Tons per Year (tpy)

Notes: CO = carbon monoxide; NO_X = nitrogen oxides; ROG = reactive organic gas; SO_X = sulfur oxides

The results shown in Tables 2 and 3 indicate that the proposed Project's construction and operational emissions would not exceed SJVAPCD criteria pollutant thresholds. Therefore, the proposed Project would not conflict with or obstruct implementation of SJVAPCD air quality plans and the impact would be *less than significant.*

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?

Less Than Significant Impact. The SJVPACD is in nonattainment with the federal standards set for 8-hour ozone and $PM_{2.5}$ and with the State standards set for 8-hour ozone, PM_{10}, and $PM_{2.5}$.[13] CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. Therefore, if annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the SJVAPCD, the proposed Project would result in a cumulatively significant impact. As discussed in *Impact Discussion III.a)*, the proposed Project's construction and operational emissions of criteria pollutants would not exceed SJVAPCD established significance thresholds for carbon monoxide (CO), nitrogen oxides (NOx), reactive organic gas (ROG), sulfur oxides (SOx), PM_{10}, or $PM_{2.5}$ emissions during Project construction or operation. The proposed Project would not result in a cumulatively considerable contribution to a net increase of any criteria pollutant for which the Project region is in non-attainment. Therefore, impacts would be *less than significant*, and mitigation is not required.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant with Mitigation Incorporated. Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants, such as the elderly, children, people with asthma or other respiratory illnesses, and others who are at a heightened risk of negative health outcomes due to exposure to air pollution. Some land uses are considered more sensitive to changes in air quality than others due to the population that occupies the uses, and the activities involved. Sensitive receptor locations include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residences.

The nearest sensitive receptors include single-family residences located approximately 10 feet east and 20 feet north of the Project site. Due to this proximity, proposed construction activities associated with the proposed Project have the potential to expose nearby residents to short-term construction-related emissions. Construction of the proposed Project would generate emissions, including diesel particulate matter (diesel PM) and fugitive dust. Construction and operational emissions would not exceed SJVAPCD thresholds; however, due to the close proximity of sensitive receptors, compliance with the SJVAPCD Standard Regulation

[13] San Joaquin Valley Air Pollution Control District (SJVAPCD). 2025. Ambient Air Quality Standards & Attainment Status. Available at: https://www.valleyair.org/air-quality-information/ambient-air-quality-standards-valley-attainmnet-status/. Accessed May 2025.

VIII Control Measures and Mitigation Measures AQ-1 through AQ-3 would be required to reduce the potential for a nuisance and exposure to diesel PM and fugitive dust. Potential impacts related to the exposure of sensitive receptors to other emissions are included in *Impact Discussion III.d)*. The proposed Project includes construction of a replacement water well, and no operational activities are proposed that could expose sensitive receptors to substantial long-term pollutant concentrations. Therefore, impacts would be *less than significant with mitigation*.

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

Less Than Significant Impact. Construction activities generally have the potential to emit odors from diesel equipment, paints, solvents, fugitive dust, and adhesives. Any odors generated by construction activities would be intermittent and temporary, generally confined to the construction area, and therefore not considered significant. Any construction odors would be temporary and limited to the construction phase of the proposed Project. In addition, the proposed well and associated improvements would not produce any offensive odors that would result in frequent odor complaints because the proposed Project does not include substantial odor-generating uses, such as agricultural activities, feedlots, wastewater treatment facilities, landfills, or heavy manufacturing uses. The Project site is not located in an area with known potential for naturally occurring asbestos (NOA).[14] Therefore, construction activities would not have the potential to expose workers or surrounding land uses to harmful levels of NOA. The proposed Project does not include any demolition activities that could disturb asbestos-containing material (ACM) or lead-based paint (LBP). Further, required compliance with SJVAPCD Rule 8021 Section 6.3 would address Valley Fever during ground-disturbing activities. The proposed Project would not create objectionable odors or release other emissions affecting a substantial number of people during Project construction or operation. Therefore, impacts would be *less than significant,* and mitigation is not required.

Mitigation Measures

AQ-1 **Permit Requirements.** Prior to ground disturbance and construction, the Construction Contractor shall obtain all required permits for dust control and the use of portable equipment, 50 horsepower or greater, from the San Joaquin Valley Air Pollution Control District. Upon application for construction permits, all required mitigation measures shall be shown on all applicable grading or construction plans and implemented during all applicable grading and construction activities.

AQ-2 **Dust Control Measures.** No person shall perform any construction, demolition, excavation, extraction, or other earthmoving activities unless measures are sufficiently implemented to limit visible dust emissions (VDE) to 20% opacity and comply with the conditions for a stabilized surface area when applicable.

[14] California Geological Survey (CGS). 2011. *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*.

In addition to the requirements of this rule, a person shall comply with all other applicable requirements of San Joaquin Valley Air Pollution Control District Regulation VIII. A person shall control the fugitive dust emissions to meet the following requirements:

1. Pre-Activity:
    a. Pre-water site sufficient to limit VDE to 20% opacity, and
    b. Phase work to reduce the amount of disturbed surface area at any one time.
2. During Active Operations:
    a. Apply water or chemical/organic stabilizers/suppressants sufficient to limit VDE to 20% opacity; or
    b. Construct and maintain wind barriers sufficient to limit VDE to 20% opacity. If utilizing wind barriers, control measure 2.a above shall also be implemented.
    c. Apply water or chemical/organic stabilizers/suppressants to unpaved haul/access roads and unpaved vehicle/equipment traffic areas sufficient to limit VDE to 20% opacity and meet the conditions of a stabilized unpaved road surface.
3. Temporary Stabilization During Periods of Inactivity:
    a. Restrict vehicular access to the area; and
    b. Apply water or chemical/organic stabilizers/suppressants, sufficient to comply with the conditions of a stabilized surface. If an area having 0.5 acre or more of disturbed surface area remains unused for 7 or more days, the area must comply with the conditions for a stabilized surface area as defined in section 3.58 of Rule 8011.

AQ-3 **Construction Emissions.** The Project shall utilize clean off-road construction equipment, including the latest tier equipment as specified by the California Air Resources Board in the most recent *Advanced Clean Off-Road Equipment List Fact Sheet*,[15] where feasible.

[15] California Air Resources Board (CARB). 2023. *CARB Advanced Clean Off-Road Equipment List Fact Sheet*. California Air Resources Board Air Quality Planning and Science Division, Mobile Source Analysis Branch, Off-Road Diesel Analysis Section. August. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-08/2023%20ZEE%20List%2008142023.pdf. Accessed April 2025.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES – 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 Game or U.S. Fish and Wildlife Service?		X		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
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?		X		

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			X	
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?				X

DISCUSSION

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 the U.S. Fish and Wildlife Service?

Less Than Significant with Mitigation Incorporated. The following information is based on a literature review of the Project site and immediately surrounding area, hereafter to referred to as the Project area. The literature review included a review of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC)[16] planning tool, a nine-quadrangle query of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB),[17] and a nine-quadrangle query of the California Native Plant Society (CNPS) Rare Plant Inventory (RPI)[18] to identify special-status plant and animal species that have been previously documented in the Project area (Appendix B).

Existing Conditions

The Project site consists of an undeveloped 0.29-acre parcel characterized by mostly bare ground and some scattered ruderal vegetation. The Project site was recently cleared and exhibits evidence of disturbance. The Project site is immediately surrounded by sidewalks and roadways to the south and west, and residential

[16] U.S. Fish and Wildlife Service (USFWS). 2025a. Information for Planning and Consultation. Available at: https://ipac.ecosphere.fws.gov/. Accessed April 2025.

[17] California Department of Fish and Wildlife (CDFW). 2025. California Natural Diversity Database. Available at: https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data. Accessed April 2025.

[18] California Native Plant Society (CNPS). 2025. Rare Plant Inventory. Available at: https://rareplants.cnps.org/. Accessed April 2025.

development to the north and east. No aquatic resources are located within the Project area.

Special-Status Plants

Based on a review of the USFWS IPaC and a nine-quadrangle query of the CDFW CNDDB, the following 15 special-status plant species have been previously documented in the Project vicinity (see Appendix B):

- Hoover's calycadenia (*Calycadenia hooveri*) is a California Rare Plant Rank (CRPR) 1B.3 species that typically occurs in rocky, exposed places, grassland, and oak savanna at elevations between approximately 330 and 1,300 feet. The nearest recorded occurrence is approximately 10.8 miles northeast of the Project area (CNDDB Occ. 44). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Succulent owl's-clover (*Castilleja campestris* var. *succulenta*) is a federally threatened, State endangered, and CRPR 1B.2 species that typically occurs in vernal pool and wetland areas at elevations below approximately 2,130 feet. The nearest recorded occurrence is approximately 4.8 miles northeast of the Project area (CNDDB Occ. 7). Based on high levels of site disturbance and lack of suitable habitat, this species is not expected to occur on-site.
- California jewelflower (*Caulanthus californicus*) is a federally endangered, State endangered, and CRPR 1B.1 species that typically occurs on flats and slopes within chenopod scrub, pinyon and juniper woodlands, and valley and foothill grasslands at elevations between approximately 230 and 3,280 feet. The nearest recorded occurrence is from the late 1890s and overlaps the Project area (CNDDB Occ. 38). Based on the date of the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Ewan's larkspur (*Delphinium hansenii* ssp. *ewanianum*) is a CRPR 4.2 species that typically occurs in oak woodland and grassland at elevations between approximately 200 and 1,970 feet. The nearest recorded occurrence is approximately 8.4 miles northeast of the Project area (Catalog #SD00092714).[19] Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Dwarf downingia (*Downingia pusilla*) is a CRPR 2B.2 species that typically occurs within vernal pools and roadside ditches at elevations below approximately 500 feet. The nearest recorded occurrence is approximately 10.1 miles northeast of the Project area (CNDDB Occ. 120). Based on the

[19] Consortium of California Herbaria (CCH). 2025. CCH2: Specimen data from the Consortium of California Herbaria. Available at: https://www.cch2.org/portal/collections/map/index.php. Accessed April 2025.

distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.

- Spiny-sepaled button-celery (*Eryngium spinosepalum*) is a CRPR 1B.2 species that typically occurs within vernal pools, swales, and roadside ditches at elevations between approximately 330 and 4,170 feet. The nearest recorded occurrence is approximately 9.6 miles northeast of the Project area (CNDDB Occ. 73). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- California satintail (*Imperata brevifolia*) is a CRPR 2B.1 species that typically occurs within wet springs, meadows, streambanks, and floodplains at elevations less than approximately 1,640 feet. The nearest recorded occurrence is from 1893 and overlaps the Project area (CNDDB Occ. 22). Based on the date of the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Munz's tidy-tips (*Layia munzii*) is a CRPR 1B.2 species that typically occurs in alkaline clay soils at elevations between approximately 160 and 2,620 feet. The nearest recorded occurrence is approximately 12.5 miles northwest of the Project area (CNDDB Occ. 81). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Madera leptosiphon (*Leptosiphon serrulatus*) is a CRPR 1B.2 species that typically occurs in openings in woodland and chaparral at elevations between approximately 980 and 4,270 feet. The nearest recorded occurrence is from 1922 and overlaps the Project area (CNDDB Occ. 23). Based on the date of the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Pincushion navarretia (*Navarretia myersii* ssp. *myersii*) is a CRPR 1B.1 species that typically occurs in vernal pools at elevations between approximately 60 and 300 feet. The nearest recorded occurrence is approximately 11 miles north of the Project area (CNDDB Occ. 17). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- San Joaquin Valley Orcutt grass (*Orcuttia inaequalis*) is a federally threatened State endangered, and CRPR 1B.1 species that typically occurs in vernal pool and wetland habitats at elevations between approximately 35 and 2,475 feet. The nearest recorded occurrence is approximately 3.6 miles northeast of the Project area (CNDDB Occ. 21). Based on high levels of site disturbance and lack of suitable habitat, this species is not expected to occur on-site.
- Hairy Orcutt grass (*Orcuttia pilosa*) is a federally endangered, State endangered, and CRPR 1B.1 species that typically occurs in vernal pool and wetland habitats at elevations between approximately 150 and 655 feet. The nearest recorded occurrence is approximately 4.4 miles northwest of the

Project area (CNDDB Occ. 28). Based on high levels of site disturbance and lack of suitable habitat, this species is not expected to occur on-site.

- Hartweg's golden sunburst (*Pseudobahia bahiifolia*) is a CRPR 1B.1 species that typically occurs in cismontane woodland and valley and foothill grassland habitats between approximately 50 and 490 feet. The nearest recorded occurrence is approximately 12.8 miles northeast of the Project area (CNDDB Occ. 24). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.
- Sanford's arrowhead (*Sagittaria sanfordii*) is a CRPR 1B.2 species that typically occurs within ponds and ditches at elevations lower than approximately 980 feet. The nearest recorded occurrence is approximately 0.3 mile south of the Project area (CNDDB Occ. 7). Based on high levels of site disturbance and lack of suitable habitat, this species is not expected to occur on-site.
- Greene's tuctoria (*Tuctoria greenei*) is a federally endangered, State rare, and CRPR 1B.1 species that typically occurs in vernal pool and wetland habitats at elevations between approximately 100 and 3,510 feet. The nearest recorded occurrence is approximately 11.3 miles east of the Project area (CNDDB Occ. 22). Based on the distance to the nearest recorded occurrence, high levels of site disturbance, and lack of suitable habitat, this species is not expected to occur on-site.

Short-term construction activities would have the potential to result in direct impacts to special-status plant species if present within the Project area during Project construction. No special-status plant species are expected to occur within the Project area due to the lack of suitable habitat and extent of disturbance within the Project area. Based on the lack of suitable habitat and frequent disturbance, special-status plant species are not expected to occur within the Project area, and the proposed Project would not result in adverse effects to special-status plant species. Following construction, the Project site would continue to experience site disturbance and would not provide suitable habitat for special-status plants. Therefore, impacts would be *less than significant*, and mitigation is not required.

Special-Status Animals

Based on a review of the USFWS IPaC and a nine-quadrangle query of the CDFW CNDDB, the following 23 special-status animal species have been previously documented in the Project vicinity (see Appendix B):

- Northwestern pond turtle (*Actinemys marmorata*) is a federally proposed threatened species and a CDFW Species of Special Concern (SSC) that typically occurs in aquatic and wetland habitats. The nearest recorded occurrence is approximately 9.9 miles east of the Project area (CNDDB Occ. 1,355). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.

- Tricolored blackbird (*Agelaius tricolor*) is a State threatened species and an SSC that typically occurs in freshwater marsh, marsh, swamp, and wetland habitats. The nearest recorded occurrence is approximately 4.8 miles east of the Project area (CNDDB Occ. 664). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- California tiger salamander – Central California Distinct Population Segment (DPS) (*Ambystoma californiense* pop. 1) is a federally and State threatened species that typically occurs in cismontane woodland, meadow and seep, riparian woodland, valley and foothill grassland, vernal pool, and wetland habitats. The nearest recorded occurrence is from 1879 and overlaps the Project area (CNDDB Occ. 478). Based on the date of the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Northern California legless lizard (*Anniella pulchra*) is an SSC that typically occurs in sandy or loose loamy soils under coastal scrub or oak trees. The nearest recorded occurrence is from the late 1800s and overlaps the Project area (CNDDB Occ. 116). Based on the date of the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Pallid bat (*Antrozous pallidus*) is an SSC that typically occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. May roost in hollow trees and old buildings. The nearest recorded occurrence is approximately 6.1 miles southeast of the Project area (CNDDB Occ. 147). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- California glossy snake (*Arizona elegans occidentalis*) is an SSC that typically occurs in open areas with loose soil for easy burrowing in arid scrub, rocky washes, grasslands, and chaparral. The nearest recorded occurrence is from 1893 and overlaps the Project site (CNDDB Occ. 1). Based on the date of the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Golden eagle (*Aquila chrysaetos*) is a State fully protected species that typically occurs in open country in prairies, tundra, open coniferous forest, and barren areas, especially in hilly or mountainous regions. Nests in large, prominent trees in wooded areas and on cliff ledges. The nearest recorded occurrence is approximately 24.3 miles northeast of the Project area (CNDDB Occ. 29). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Burrowing owl (*Athene cunicularia*) is a State candidate endangered species and an SSC that typically occurs in wide-open, sparsely vegetated areas like prairies, deserts, grasslands and agricultural fields. The nearest recorded occurrence is approximately 6.7 miles southeast of the Project area (CNDDB Occ. 1,962). Although the Project site contains undeveloped grassland, the Project site is primarily characterized by highly disturbed ruderal landcover,

with evidence of regular mowing and recent disking for general maintenance. Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.

- Crotch's bumble bee (*Bombus crotchii*) is a State candidate endangered species that typically occurs in grassland and scrub habitats. The nearest recorded occurrence is from 1899 and overlaps with the Project area (CNDDB Occ. 53). Based on the date of the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Vernal pool fairy shrimp (*Branchinecta lynchi*) is a federally threatened species that typically occurs in valley and foothill grassland, vernal pool, and wetland habitats. The nearest recorded occurrence is approximately 4.7 miles northeast of the Project area (CNDDB Occ. 828). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- Swainson's hawk (*Buteo swainsoni*) is a State threatened species that typically occurs in grassland, riparian forest, riparian woodland, and valley and foothill grassland habitats. The nearest recorded occurrence is from 1956 and overlaps the Project area (CNDDB Occ. 2,583). There is potential to observe this species soaring overhead, but based on the lack of suitable habitat, this species is not expected to forage or nest on-site.
- Monarch butterfly (*Danaus plexippus*) is a federally proposed threatened species that is dependent on milkweed as a host plant for offspring and typically overwinters in wind-protected tree groves. The nearest recorded occurrence is approximately 105.4 miles east of the Project area (CNDDB Occ. 198). The Project site does not contain any suitable roost habitat, and the Project site is outside of the overwintering range of this species. Therefore, this species is not expected to occur on-site.
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*) is a federally threatened species that typically occurs in riparian forests on valley floors and low foothills throughout the Central Valley. This species is dependent on its host plant, elderberry, throughout all stages of life. The nearest recorded occurrence is approximately 3.9 miles northwest of the Project area (CNDDB Occ. 134). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is a federally and State endangered species that typically occurs in alkali sink communities in the central portion of the San Joaquin Valley. This species occupies burrows in relatively light, sandy soils in raised areas. The nearest recorded occurrence is approximately 1.5 miles south of the Project area (CNDDB Occ. 15). Based on the lack of suitable habitat and lack of connection to natural areas, this species is not expected to occur on-site.
- Spotted bat (*Euderma maculatum*) is an SSC that typically roosts high in cliff crevices, occasionally in human-made structures, in a wide variety of habitats from desert shrub to coniferous forests. The nearest recorded occurrence is approximately 14.7 miles northeast of the Project area (CNDDB Occ. 40).

Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.

- Western mastiff bat (*Eumops perotis californicus*) is an SSC that typically occurs in broad open areas, chaparral, montane meadows, rocky cliffs, and canyon areas. This species roosts in crevices, tunnels, and buildings. The nearest recorded occurrence is approximately 2.3 miles southeast of the Project area (CNDDB Occ. 73). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- Bald eagle (*Haliaeetus leucocephalus*) is a State endangered and State fully protected species that typically occurs in forests or woodlands adjacent to large bodies of water. This species is tolerant of human activity and is commonly spotted around dumps and fish-processing plants. The nearest recorded occurrence is approximately 22.7 miles north of the Project area (CNDDB Occ. 260). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Hardhead (*Mylopharodon conocephalus*) is an SSC that typically inhabits pools and runs with deep, clear water; slow velocities; and sand-gravel-boulder substrates at low to mid elevations. This species is generally absent from streams that are heavily altered or occupied by non-native fish, is primarily a bottom feeder, and forages on invertebrates and aquatic plant material. The nearest recorded occurrence is approximately 5.1 miles northeast of the Project area (CNDDB Occ. 12). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Coast horned lizard (*Phrynosoma blainvillii*) is an SSC that occurs in a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. The nearest recorded occurrence is from the late 1800s and overlaps the Project area (CNDDB Occ. 478). Based on the date of the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.
- Western spadefoot (*Spea hammondii*) is a federally proposed threatened species and an SSC that typically occurs in seasonal/vernal pools in coastal scrub, grassland, chaparral, woodland habitat, and open areas with sandy or gravelly soils. The nearest recorded occurrence is approximately 3.7 miles northeast of the Project area (CNDDB Occ. 1,246). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- American badger (*Taxidea taxus*) is an SSC that typically occurs in dry, open fields with friable soil for tunneling and foraging. The nearest recorded occurrence is approximately 2.9 miles northwest of the Project area (CNDDB Occ. 79). Based on the lack of suitable habitat, this species is not expected to occur on-site.
- Least Bell's vireo (*Vireo bellii pusillus*) is a federally and State endangered species that typically occurs in riparian forest, riparian scrub, and riparian woodland habitats. The nearest recorded occurrence is approximately

6.6 miles east of the Project area (CNDDB Occ. 506). Based on the distance to the nearest recorded occurrence and lack of suitable habitat, this species is not expected to occur on-site.

- San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally endangered and State threatened species that typically occurs in chenopod scrub and annual grasslands with loose sandy soils. The nearest recorded occurrence is approximately 3 miles west of the Project area (CNDDB Occ. 89). Based on the lack of suitable habitat and lack of connection to natural areas, this species is not expected to occur on-site.

Short-term construction activities would have the potential to result in direct (e.g., take) or indirect (e.g., light pollution, noise pollution, habitat loss, etc.) impacts to special-status animal species if present within the Project area during construction activities. Most special-status animal species known to occur in the region are not expected to occur within the Project area based on the lack of suitable habitat, lack of connectivity to natural areas, and level of site disturbance; however, there is some potential for migratory bird species to nest in the landscape trees adjacent to the Project area. Proposed construction activities, including the removal of approximately four ornamental trees, have the potential to result in direct and indirect disturbance to migratory nesting bird species if present within the Project area during construction. Mitigation Measure BIO-1 has been included to require preconstruction nesting bird surveys and identifies the proper protocol to be implemented if birds are found nesting within the Project area. Following construction, the Project site would continue to experience site disturbance and would not provide suitable habitat for special-status animals. Implementation of Mitigation Measure BIO-1 would avoid and/or minimize potential impacts related to nesting migratory birds; therefore, impacts related to special-status animal species would be *less than significant with mitigation*.

Conclusion

Based on the lack of suitable habitat and high level of disturbance, special-status plant species are not expected to occur within the Project area; therefore, the proposed Project would not result in adverse effects to special-status plant species. In addition, there is no suitable habitat on-site for the special-status wildlife documented within the Project vicinity. Landscape trees adjacent to the Project site may provide suitable habitat for migratory nesting birds. Implementation of Mitigation Measure BIO-1 would avoid and/or minimize potential impacts related to nesting migratory birds. Following construction, the Project site would continue to experience site disturbance and would not provide suitable habitat for special-status plants or animals. Therefore, impacts related to special-status species would be *less than significant with mitigation.*

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 the U.S. Fish and Wildlife Service?

No Impact. The Project site consists of an undeveloped 0.29-acre parcel characterized by highly disturbed bare ground areas with scattered ruderal vegetation.

According to the USFWS National Wetlands Inventory (NWI) Surface Waters and Wetlands Mapper,[20] there are no mapped surface water or wetland areas within or adjacent to the Project area that could support any riparian habitat. In addition, the Project site has experienced recent high levels of disturbance and would not support suitable habitat for any sensitive natural communities. The Project site does not support riparian habitat or other sensitive natural communities, and the proposed Project would not result in a substantial adverse effect on any riparian habitat or other sensitive natural community. Therefore, *no impact* would occur, and mitigation is not required.

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?

No Impact. According to the USFWS NWI Surface Waters and Wetlands Mapper,[21] there are no mapped wetland areas within or adjacent to the Project area. Based on the absence of wetlands within the Project area, the proposed Project would not result in a substantial adverse effect on a federally or State-protected wetland. Therefore, *no impact* would occur, and mitigation is not required.

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?

Less Than Significant with Mitigation Incorporated. Open space areas, undeveloped land, and agricultural land are mainly located along the boundaries of the City, particularly near the northern boundary along the San Joaquin River corridor. The San Joaquin River corridor functions as a wildlife movement corridor for a number of terrestrial and aquatic mammals and birds and facilitates movement of wildlife species from Fresno to the Sierra Nevada to the east and open agricultural land to the west.

The Project site is located in a developed area in the western portion of the City and is not located within a wildlife movement corridor. The Project site consists of an undeveloped and disturbed area that is surrounded by existing developed areas, including single-family residential development to the north, east, west, and south. Further, North Marks Avenue and West San Madele Avenue run along the western and southern boundaries of the Project site, respectively. Based on the level of existing development, the Project area is not suitable for terrestrial habitat connectivity. There are no waterways within the Project area that could provide migratory fish or breeding habitat. As previously identified, there is potential for migratory birds to utilize landscape trees adjacent to the Project area for nesting habitat. The proposed Project would result in the removal of approximately four

[20] U.S. Fish and Wildlife Service (USFWS). 2025b. National Wetlands Inventory (NWI) Surface Waters and Wetlands Mapper. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed April 2025.

[21] U.S. Fish and Wildlife Service (USFWS). 2025b. National Wetlands Inventory (NWI) Surface Waters and Wetlands Mapper. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed April 2025.

ornamental trees from the Project site and surrounding area, which could reduce the availability of nesting habitat for migratory bird species. Implementation of Mitigation Measure BIO-1 would avoid and/or minimize potential impacts related to nesting migratory birds. Therefore, the proposed Project would not interfere substantially with the movement of migratory species, and impacts would be *less than significant with mitigation.*

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant Impact. City Municipal Code Section 13-305 (Tree Preservation) requires the use of techniques, methods, and procedures to preserve, whenever feasible, all trees in the City, including, but not limited to, trees that are affecting surface improvements or underground facilities or are diseased or located where construction is being considered or will occur. The proposed Project would result in the removal of approximately four ornamental trees from the Project site and surrounding area. Tree removals would be completed in accordance with the provisions of City Municipal Code Section 13-305, and the proposed Project would not conflict with the City's Tree Preservation Ordinance. Therefore, impacts would be *less than significant*, and mitigation is not required.

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?

No Impact. The *PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan* (PG&E O&M HCP)[22] was approved in 2007 and covers portions of nine counties, including Fresno County. The PG&E O&M HCP covers PG&E activities that occur as a result of ongoing operations and maintenance that would have an adverse impact on any of the 65 covered species and provides incidental take coverage from the USFWS and CDFW. The PG&E O&M HCP is not applicable to the proposed Project. The Project site is not located within the covered area of any other Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, *no impact* would occur, and mitigation is not required.

Mitigation Measures

BIO-1 **Preconstruction Nesting Bird Survey.** Prior to initiation of any Project site preparation/construction activities, if work is planned to occur between February 1 and September 15, a qualified biologist shall survey the area for nesting birds within 1 week prior to initial Project activity beginning, including ground disturbance and/or vegetation removal/trimming. If nesting birds are located on or near the Project site, they shall be avoided until they have successfully fledged, or the nest is no longer deemed active, as detailed below:

[22] Pacific Gas and Electric (PG&E). 2006. *PG&E San Joaquin Valley Operation & Maintenance Habitat Conservation Plan*. Available at: https://ecos.fws.gov/docs/plan_documents/thcp/thcp_838.pdf. Accessed April 2025.

1. A 50-foot exclusion zone shall be placed around non-listed, passerine species and a 250-foot exclusion zone will be implemented for raptor species. Each exclusion zone shall encircle the nest and have a radius of 50 feet (non-listed passerine species) or 250 feet (raptor species). All Project activities, including foot and vehicle traffic and storage of supplies and equipment, are prohibited inside exclusion zones. Exclusion zones shall be maintained until all exterior construction activities have been terminated for the current phase of work (e.g., if initial site improvements are completed, exclusion zones may be removed until initiation of site preparation for residence construction begins), or it has been determined by a qualified biologist that the young have fledged or that Project activities would not cause adverse impacts to the nest, adults, eggs, or young.
2. If special-status avian species are identified and nesting within the work area, no work will begin until an appropriate exclusion zone is determined in consultation with the City of Fresno and any relevant resource agencies.

The results of the survey shall be provided to the City of Fresno prior to initiation of site preparation/construction activities. The results shall detail appropriate fencing or flagging of exclusion zones and include recommendations for additional monitoring requirements. A map of the Project site and nest locations shall be included with the results. The qualified biologist conducting the nesting survey shall have the authority to reduce or increase the recommended exclusion zone depending on site conditions and species (if non-listed).

If 2 weeks lapse between different phases of Project activities (e.g., vegetation trimming, the start of grading), during which no or minimal work activity occurs, the nesting bird survey shall be repeated, and a separate survey report shall be prepared and submitted to the City of Fresno.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?		X		

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of formal cemeteries?			X	

DISCUSSION

a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?

No Impact. A historical resource, as defined by CEQA, includes one or more of the following criteria: 1) the resource is listed, or found eligible for listing in, the CRHR; 2) the resource is listed in a local register of historical resources as defined by PRC Section 5020.1(k); 3) the resource is identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or 4) the resource is determined to be a historical resource by the project's lead agency (PRC Section 21084.1; State CEQA Guidelines Section 15064.(a)). Under CEQA, historical resources include built environment resources and archaeological sites.

The Project site is entirely undeveloped and does not consist of any buildings or structures that could qualify for listing as a historical resource. In addition, the Project site is not located in a historic district. The proposed Project would not cause a substantial adverse change in the significance of a historical resource. Therefore, *no impact* would occur, and mitigation is not required.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?

Less Than Significant with Mitigation Incorporated. Construction activities would result in approximately 0.29 acre of ground disturbance, including approximately 135 CY of cut and 38 CY of fill. The maximum depth of excavation would include 900 feet for drilling of the proposed well and 3 feet for general site improvements. Based on a records search conducted at the CHRIS San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield and the NAHC SLF, there are no previously recorded archaeological resources within the Project area. There is a historic railroad segment that has been recorded within the Project vicinity; however, this resource does not occur within the proposed area of disturbance and would not be impacted by the proposed Project. Therefore, proposed ground-disturbing activities would not adversely affect any known cultural resource sites within the Project area. Further, Mitigation Measure CR-1 requires that in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities, all work shall cease within the vicinity of the find until a qualified archaeologist is retained to evaluate the significance of the find and determine the need for further study. Based on the low potential to uncover archaeological resources within the Project area and implementation of Mitigation Measure CR-1, the proposed

Project would not result in adverse impacts to known or unknown cultural resources. Therefore, impacts would be *less than significant with mitigation*.

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant Impact. There are no known human remains or cemeteries located within or in the immediate vicinity of the Project site, and the Project area is considered to have low sensitivity for the presence of unidentified human resources. The proposed Project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for unanticipated discovery of human remains. Section 7050.5 states that no further disturbance shall occur until the Fresno County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Fresno County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Based on required compliance with California Health and Safety Code Section 7050.5, the proposed Project would not result in disturbance to human remains. Therefore, impacts would be *less than significant,* and mitigation is not required.

Mitigation Measures

CR-1 If previously unknown resources are encountered before or during grading activities, construction shall stop in the immediate vicinity of the find and a qualified cultural resources specialist shall be consulted to determine whether the resource requires further study. The qualified cultural resources specialist shall make recommendations to the City of Fresno on the measures that shall be implemented to protect the discovered resources, including, but not limited to, excavation of the finds and evaluation of the finds in accordance with Section 15064.5 of the California Environmental Quality Act (CEQA) Guidelines and the City of Fresno's Historic Preservation Ordinance. If the resources are determined to be unique historical resources as defined under State CEQA Guidelines Section 15064.5, measures shall be identified by the cultural resources specialist and recommended to the Lead Agency. Appropriate measures for significant resources could include avoidance or capping; incorporation of the Project site in green space, parks, or open space; or data recovery excavations of the finds. No further grading shall occur in the area of the discovery until the Lead Agency approves the measures to protect these resources. Any historical artifacts recovered as a result of mitigation shall be provided to a City of Fresno-approved institution or person who is capable of providing long-term preservation to allow future scientific study.

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

DISCUSSION

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant Impact. During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. The energy consumed during construction would be temporary in nature and typical of other similar construction activities in the City. Federal and State regulations in place require the use of fuel-efficient equipment and vehicles and require wasteful activities, such as diesel idling, to be limited. Construction contractors, in an effort to ensure cost efficiency, would not be expected to engage in wasteful or unnecessary energy and fuel practices. Proposed construction activities would be conducted by a maximum of eight construction workers and would generate a maximum of 13 short-term vehicle trips to and from the Project site each day; however, Project construction is expected to use workers from the local employment force and would not require workers to commute from other areas. Further, construction vehicles and equipment would be stored on-site as feasible to further reduce vehicle, truck, and equipment trips during construction. Energy consumption during construction would not conflict with a State or local plan for renewable energy and would not be wasteful, unnecessary, or inefficient. Therefore, impacts would be *less than significant*, and mitigation is not required.

The proposed Project would include the construction of a new well with a production capacity of 1,500 gpm to replace an existing water well that produced 900 gpm but was taken out of service and destroyed. Because the proposed well is a replacement for another well that was taken out of service and destroyed, operation of the well would not result in a substantial increase in energy consumption. The pump would have power supplied by an existing utility pole, located southwest of the Project site, connected to a proposed PG&E transformer. Electricity demand for the proposed

Project would be supplied by PG&E, which is fully compliant with State regulations. PG&E sources 38% of its energy from renewable energy sources and 95% of its energy from greenhouse gas (GHG)-free energy sources.[23] By utilizing PG&E for electricity, the proposed Project would reduce the long-term use of non-renewable energy resources. Proposed operational maintenance activities would include an average of one maintenance trip per week, with additional maintenance trips as needed, and would not result in a substantial increase in vehicle trips to and from the Project site. Operational energy use would be minimal and would not result in the wasteful consumption of energy sources. Therefore, impacts would be *less than significant*, and mitigation is not required.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less Than Significant Impact. In 2002 the Legislature passed Senate Bill (SB) 1389, which required the California Energy Commission (CEC) to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels, for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission (ZE) vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

The CEC approved the *2023 Integrated Energy Policy Report*[24] in February 2024. The *2023 Integrated Energy Policy Report* provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining energy reliability and controlling costs. The *2023 Integrated Energy Policy Report* identifies methods towards achieving California's goals for mitigating climate change and protecting the health of all Californians while simultaneously transitioning to renewable generation and electrifying the State's economy. California needs to accelerate the pace of clean energy resource deployment, including flexible loads like electric vehicle (EV) chargers and heat pumps connected at the distribution level as well as grid-scale renewables and storage connected at the transmission level.

As evaluated in *Impact Discussion VI.a)*, the proposed Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during Project

[23] Pacific Gas and Electric Company (PG&E). 2022a. Clean Energy Solutions. Available at: https://www.pge.com/en/about/corporate-responsibility-and-sustainability/taking-responsibility/clean-energy-solutions.html. Accessed April 2025.

[24] California Energy Commission (CEC). 2024. *2023 Integrated Energy Policy Report Highlights*. February. Available at: https://www.energy.ca.gov/sites/default/files/2024-05/2023_Integrated_Energy_Policy_Report_Highlights_ADA.pdf. Accessed April 2025.

construction or operation. Because California's energy conservation planning actions are conducted at a regional level, and because the proposed Project's total impact to regional energy supplies would be negligible, the proposed Project would not individually or cumulatively conflict with California's energy conservation plans as described in the CEC's *2023 Integrated Energy Policy Report*.

The City's 2014 *General Plan Resource Conservation and Resilience Element*[25] identifies goals and policies to reduce the consumption of non-renewable energy resources by requiring and encouraging conservation measures and the use of alternative energy sources. As previously evaluated, proposed construction activities would require the use of energy in the form of diesel fuel and gasoline for workers and construction vehicles and equipment. The energy consumed during construction would be temporary and would not represent a significant or wasteful demand on available resources. The proposed Project includes the use of clean off-road construction equipment, including the latest tier equipment, where feasible during construction, which would be consistent with the City's General Plan goals related to the use of alternative energy sources.

As discussed in *Impact Discussion VI.a)*, operation of the proposed Project would not result in substantial energy consumption from electricity use for well pump operations or fossil fuel use for vehicle trips to and from the Project site. The proposed Project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, including the City's *General Plan Resource Conservation and Resilience Element*. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS – Would the project:				
a) Directly or Indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:			X	

[25] City of Fresno. 2014c. *Fresno General Plan, 7: Resource Conservation and Resilience Element*. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/General-Plan-7-Resources-Conservation-and-Resilience-7-19.pdf. Accessed April 2025.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
i) 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? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?			X	
iii) Seismic-related ground failure, including liquefaction?			X	
iv) Landslides?			X	
b) Result in substantial soil erosion or the loss of topsoil?			X	
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?			X	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			X	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?		X		

DISCUSSION

a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. 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? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Fault ruptures are generally expected to occur along active fault traces that have exhibited signs of recent geological movement (i.e., in the last 11,000 years). Alquist-Priolo Earthquake Fault Zones are delineated areas around active faults with potential surface fault rupture hazards that require specific geological investigations prior to approval of certain kinds of development within the delineated area. The Project site is not located within an Alquist-Priolo Earthquake Fault Zone. No known active or potentially active faults or fault traces are located in the Project vicinity. The nearest active fault is the Nunez Fault, approximately 50 miles southwest of the City of Fresno. Therefore, *no impact* would occur, and mitigation is not required.

ii. Strong seismic ground shaking?

Less Than Significant Impact. The City of Fresno is located in an area with a historically low-to-moderate level of seismicity. However, there is some potential for seismic activity along the nearby Great Valley Fault Zone, the Nunez Fault, or other associated faults, which could affect the Project site through strong seismic ground shaking. Strong seismic ground shaking could potentially cause structural damage to the proposed Project. The proposed Project does not include the construction of any occupiable buildings or structures that would be subject to design standards included in the most recent California Building Code (CBC). A temporary sound barrier(s) would be installed to reduce noise during well-drilling activities. The specifications for the sound barrier(s) would be finalized and provided by the contractor once awarded; however, typical installation methods would include sandbags to stabilize the base of the structure or attachment to k-rail to avoid the risks associated with seismic hazards. Following drilling of the well, the sound barrier would be removed from the Project site. Based on low potential for seismic ground shaking and the nature of the proposed Project, the proposed Project would not result in the risk of loss, injury, or death as a result of seismic ground shaking. Therefore, impacts would be *less than significant*, and mitigation is not required.

iii. Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction takes place when loosely packed, water-logged sediments at or near the ground surface lose their strength in response to strong ground shaking. The predominant soils within the City of Fresno consist of varying combinations of loose/very soft to very dense/hard silts, clays, sands, and gravels. Groundwater has been encountered near the ground surface

in close proximity to water-filled features such as canals, ditches, ponds, and lakes. Based on these characteristics, the potential for soil liquefaction within the City ranges from very low to moderate due to the variable density of the subsurface soils and the presence of shallow groundwater. In addition to liquefaction, the City could be susceptible to induced settlement of loose unconsolidated soils or lateral spread during seismic shaking events. Based on the nature of the subsurface materials and the relatively low to moderate seismicity of the region, potential for seismic-related ground failure is low in Fresno.[26] The proposed Project would not include the construction of any occupiable buildings or structures that would be subject to design standards included in the most recent CBC. A temporary sound barrier(s) would be installed to reduce noise during well-drilling activities. A temporary sound barrier(s) would be installed to reduce noise during well-drilling activities. The specifications for the sound barrier(s) would be finalized and provided by the contractor once awarded; however, typical installation methods would include sandbags to stabilize the base of the structure or attachment to k-rail to avoid risk associated with seismic hazards. Following drilling of the well, the sound barrier would be removed from the Project site. Based on the low potential for liquefaction and the nature of the proposed Project, the proposed Project would not result in the risk of loss, injury, or death as a result of liquefaction. Therefore, impacts would be *less than significant*, and mitigation is not required.

iv. Landslides?

Less Than Significant Impact. A landslide generally occurs on relatively steep slopes and/or on slopes underlain by weak materials. The City of Fresno is located within an area that consists of mostly flat topography within the Central Valley. Accordingly, there is no risk of large landslides in the majority of the City; however, there is the potential for landslides and slumping along the steep banks of rivers, creeks, or drainage basins such as the San Joaquin River bluff and the many unlined basins and canals that trend throughout the City. The Project site is located in a relatively flat area and is not in the vicinity of the San Joaquin River bluff or other unlined basins or canals; therefore, the potential for landslides to occur within the Project site is low. The proposed Project would not include the construction of any occupiable buildings or structures that would be subject to design standards included in the most recent CBC. A temporary sound barrier(s) would be installed that would be stabilized by sandbags or k-rail to avoid risk associated with seismic hazards. Following drilling of the well, the sound barrier would be removed from the Project site. Based on the low potential for landslide and the nature of the proposed Project, the proposed Project would not result in the risk of loss, injury, or death as a result of landslide. Therefore, impacts would be *less than significant*, and mitigation is not required.

[26] City of Fresno. 2014e. *Fresno General Plan, 9: Noise and Safety Element*. Adopted December 18. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/9-Noise-and-Safety-02-03-21.pdf. Accessed April 2025.

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. Construction activities would result in approximately 0.29 acre of ground disturbance, including approximately 135 CY of cut and 38 CY of fill. Ground-disturbing activities during Project construction have the potential to result in erosion and loss of topsoil. The proposed Project would be required to comply with City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control), which requires the implementation of best management practices (BMPs) to reduce erosive runoff during construction. Compliance with the City's Municipal Code would reduce the potential for erosion and other pollutants to run off from the Project site during short-term construction activities. The proposed Project would disturb less than 1 acre of soil and would not be required to comply with Central Valley Regional Water Quality Control Board (RWQCB) General Construction Permit requirements. The proposed Project would be limited to the operation of a new well and does not include any long-term components that could increase erosion at the Project site. Based on required compliance with City requirements, impacts related to substantial erosion would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. As previously stated, soils at the Project site would not be subject to liquefaction, lateral spreading, or landslides. Further, the Project site is not located in an area with known subsidence.[27] The proposed Project would not include the construction of any occupiable buildings or structures that would be subject to design standards included in the most recent CBC. A temporary sound barrier(s) would be installed that would be stabilized by sandbags or k-rail to avoid risk associated with ground-failure events. Following drilling of the well, the sound barrier would be removed from the Project site. Further, current groundwater recharge conditions are adequate to account for the increase in groundwater pumping associated with the proposed Project; therefore, the proposed Project would not result in over-pumping that could lead to permanent subsidence. Therefore, impacts would be *less than significant*, and mitigation is not required.

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

Less Than Significant Impact. Expansive soils are characterized by the potential for shrinking and swelling as the moisture content of the soil decreases and increases, respectively. Typically, soils that are comprised of clay and clay components consist of very fine particles and are slightly to moderately expansive. The Project site is underlain by one soil type, San Joaquin sandy loam (SdA), which consists of sandy

[27] U.S. Geological Survey (USGS). 2024. Areas of Land Subsidence in California. Available at: https://ca.water.usgs.gov/land_subsidence/california-subsidence-areas.html. Accessed April 2025.

loam, clay, and coarse sandy loam.[28] Due to the limited extent of clay components, soils at the Project site would have low potential for expansion. Based on the low potential for soil expansion, the proposed Project would not result in the risk associated with expansive soils. Therefore, impacts would be *less than significant*, and mitigation is not required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The proposed Project would not include the construction of a septic tank or alternative wastewater disposal systems. Therefore, *no impacts* would occur, and mitigation is not required.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less Than Significant with Mitigation Incorporated. The Project site is underlain by nonmarine deposits of the Pleistocene era (Qc), which has a low paleontological sensitivity due its relatively young age.[29] Proposed construction activities would have a maximum depth of excavation of 900 feet for drilling of the proposed well and 3 feet for general site improvements. While general site improvements are not expected to disturb the underlying bedrock, there is potential that drilling for the well may reach the underlying bedrock; therefore, Mitigation Measure GEO-1 has been identified to address inadvertent discovery of paleontological resources. Based on the low paleontological sensitivity of the underlying geologic unit and implementation of Mitigation Measure GEO-1, the Project would not directly or indirectly disturb a unique paleontological resource. Therefore, impacts would be *less than significant with mitigation*.

Mitigation Measures

GEO-1 In the event that unique paleontological/geological resources are discovered during well-drilling activities, the Project contractor shall cease ground-disturbing activities within 50 feet of the find and a qualified paleontologist shall be consulted to determine whether the resource requires further study. The qualified paleontologist shall provide recommendations to the City of Fresno on the measures that shall be implemented to protect the discovered resources, including but not limited to, excavation of the finds and evaluation of the finds. If the resources are determined to be significant, mitigation measures shall be identified by the qualified paleontologist and recommended to the lead agency. Appropriate mitigation measures for significant resources could include

[28] Natural Resources Conservation Service (NRCS). 2025. Web Soil Survey. U.S. Department of Agriculture Natural Resources Conservation Service. Available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx. Accessed April 2025.

[29] California Geological Survey (CGS). 1978. Fresno sheet. Map Scale: 1:250,000. Bouguer Gravity Map of California BGA-05. California Geological Survey Publications. Available at: https://ngmdb.usgs.gov/Prodesc/proddesc_114520.htm. Accessed April 2025.

avoidance or capping; incorporation of the Project site into green space, parks, or open space; or data recovery excavations of the finds. No further drilling shall occur in the area of the discovery until the lead agency approves the measures to protect these resources. At each fossil locality, field data forms shall be used to record pertinent geologic data, stratigraphic sections shall be measured, and appropriate sediment samples shall be collected and submitted for analysis. Any fossils encountered and recovered shall be catalogued and presented for donation to a public, non-profit institution with a research interest in the materials. Accompanying notes, maps, and photographs shall also be filed at the repository.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
VIII. GREENHOUSE GAS EMISSIONS – Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		X		
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?			X	

DISCUSSION

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant with Mitigation Incorporated. The State CEQA Guidelines indicate that a project would normally have a significant adverse GHG emission impact if the project would:

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

State CEQA Guidelines Section 15064.4 states that: “A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.” In performing that analysis, the lead agency has discretion to determine whether to use a model or methodology to quantify GHG emissions, or to rely on a qualitative analysis or performance-based standards. In making a

determination as to the significance of potential impacts, the lead agency then considers the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting, whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project, and the extent to which the project complies with regulations or requirements adopted to implement a Statewide, regional, or local plan for the reduction or mitigation of GHG emissions.

The proposed Project would include the construction of a new well with a production capacity of 1,500 gpm to replace an existing water well that produced 900 gpm but was taken out of service and destroyed. Estimated construction and operational GHG emissions were calculated for the proposed Project using CalEEMod (see Appendix A).[30] The proposed Project is estimated to result in a total of 339 metric tons of carbon dioxide equivalent ($MTCO_2e$) during construction and 36.1 $MTCO_2e$ during operation. The proposed Project would be consistent with State and local GHG reduction goals, as described in detail below.

During construction, fossil fuels, electricity, and natural gas would be used by construction vehicles and equipment. Federal and State regulations in place require fuel-efficient equipment and vehicles and prohibit wasteful activities, such as diesel idling. Mitigation Measure GHG-1 has been added to require implementation of additional energy- and fuel-efficiency BMPs during construction.

Operational energy consumption would include electricity use for well operation and fossil fuel use for vehicle trips to and from the site. Electricity would be provided by PG&E, which consists of 38% renewable energy sources and 57% GHG-free energy sources.[31] By using electricity from PG&E, the proposed Project would reduce the long-term use of non-renewable energy resources, which would help reduce long-term GHG emissions associated with energy generation. Ancillary buildings would be required to comply with applicable California Green Building Standards Code (CALGreen; 24 California Code of Regulations [CCR] Part 11) and California Energy Code (24 CCR Part 6) requirements to encourage energy efficient design, which would further reduce long-term GHG emissions associated with energy generation.

As discussed in *Section XVII, Transportation*, the proposed Project would generate a low volume of daily traffic. Project construction would require a maximum of 13 vehicle trips to and from the Project site each day, and proposed maintenance activities would require an average of one maintenance trip per week, with additional maintenance trips as needed. Therefore, the proposed Project would generate fewer than 500

[30] California Air Pollution Control Officers Association (CAPCOA). 2024. California Emissions Estimator Model (CalEEMod). Available at: https://www.caleemod.com/. Accessed April 2025.

[31] Pacific Gas and Electric Company (PG&E). 2022b. Exploring Clean Energy Solutions. Available at: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed April 2025.

average daily trips.[32] Therefore, the proposed Project is not anticipated to generate VMT in a manner that could result in substantial consumption of fossil fuels.

Based on the analysis provided above and implementation of Mitigation Measure GHG-1, the proposed Project is not anticipated to generate substantial GHG emissions during Project construction or operation. Therefore, impacts would be *less than significant with mitigation*.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The City of Fresno does not have a current GHG reduction plan, and the SJVAPCD also does not have adopted thresholds of significance for GHG emissions. Therefore, in the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed Project for consistency with the Bay Area Air Quality Management District (BAAQMD) *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans* (Justification Report).[33]

In April 2022, the BAAQMD adopted the Justification Report, which identifies applicable GHG significance thresholds. These thresholds establish whether a project would be consistent with California's efforts to meet long-term climate goals as established in the State's *Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan Update),[34] including achieving carbon neutrality by 2045 or earlier. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

The Justification Report provides substantial evidence supporting the use of their thresholds for projects throughout California because the thresholds are applicable to meeting the State's established GHG reduction goals. In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed project for consistency with the identified project design elements as the applicable thresholds of significance to establish if the proposed project is achieving its "fair

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[32] City of Fresno. 2020a. *CEQA Guidelines for Vehicle Miles Traveled Thresholds*. June 25. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/CEQA-Guidelines-for-Vehicle-Miles-Traveled-Final-Adopted-Version.pdf#:~:text=final%20rulemaking%20surrounding%20SB%20743%20and%20the%20implementation. Accessed April 2025.

[33] Bay Area Air Quality Management District (BAAQMD). 2022. *Justification Report: CEQA Thresholds for Evaluating the Significance of Climate Impacts from Land Use Projects and Plans*. April. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-thresholds-2022/justification-report-pdf.pdf?la=en. Accessed April 2025.

[34] California Air Resources Board (CARB). 2022. 2022 Scoping Plan Documents. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed April 2025.

share" of emission reductions to support long-term State goals for GHG emissions and carbon neutrality.

According to the Justification Report, a project would have a less-than-significant impact related to GHG emissions if it would include the following project design elements:

1. Buildings
    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
    b. The project will not result in any wasteful, inefficient, or unnecessary electrical usage as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
2. Transportation
    a. Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target, reflecting the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory on Evaluating Transportation Impacts in CEQA:
        - Residential projects: 15 percent below the existing VMT per capita
        - Office projects: 15 percent below the existing VMT per employee
        - Retail projects: no net increase in existing VMT
    b. Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

These project design elements are utilized in the following analysis as the thresholds of significance to evaluate the project's potential GHG emissions impact.

Per the significance thresholds described above, a less-than-significant GHG impact would occur if the proposed Project were consistent with the identified design standards, as evaluated below.

Construction Greenhouse Gas Emissions

Construction activities associated with the proposed Project would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Furthermore, CH_4 is emitted during the

fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The SJVAPCD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using CalEEMod, it is estimated that the annual emissions associated with construction of the proposed Project would be approximately 339 $MTCO_2e$ per year.

Operational Greenhouse Gas Emissions

Long-term GHG emissions are typically generated from mobile sources (e.g., vehicle and truck trips), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include Project-generated vehicle trips to and from the Project site. Area-source emissions would be associated with activities such as landscaping and maintenance on the Project site. Energy source emissions would be generated at off-site utility providers as a result of increased electricity demand generated by the proposed Project. Waste source emissions generated by the proposed Project include energy generated by land filling and other methods of disposal related to transporting and managing Project-generated waste. In addition, water source emissions associated with the proposed Project are generated by water supply and conveyance, water treatment, water distribution, and wastewater treatment.

Following guidance from the SJVAPCD, GHG emissions for operation of the proposed Project were calculated using CalEEMod. Based on the analysis results, the proposed Project would result in emissions of approximately 36.1 $MTCO_2e$ per year. These estimated emissions are provided for informational purposes, and the significance of the proposed Project is further analyzed below.

In the absence of any City or SJVAPCD specific guidelines or thresholds, this analysis evaluates the proposed Project for consistency with the BAAQMD Justification Report, which identifies project design elements as the applicable thresholds of significance. If a project is designed and built to incorporate design elements related to natural gas, energy, VMT, and EVs, then it would contribute its portion of what is necessary to achieve California's long-term climate goals—its "fair share"—and an agency reviewing the project under CEQA can conclude that the project would not make a cumulatively considerable contribution to global climate change.

Per the significance thresholds described above, a less than significant GHG impact would occur if the proposed Project were consistent with the identified design standards, as evaluated below.

Natural Gas Usage

A less-than-significant GHG impact would occur if a project does not include natural gas appliances or natural gas plumbing. The proposed Project does not include the construction of new occupiable buildings that would require connection to natural gas. Therefore, the proposed Project would be consistent with this design element.

Energy Use

Under this design criterion, a project must not result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and State CEQA Guidelines Section 15126.2(b). The proposed Project does not include the construction of new buildings. Nevertheless, as evaluated in Section *VI. Energy*, the energy consumed during construction would be temporary in nature and typical of other similar construction activities in the City. Federal and State regulations in place require the use of fuel-efficient equipment and vehicles and that wasteful activities, such as diesel idling, be limited. Operational electricity would be provided by PG&E, which consists of 38% renewable energy sources and 57% GHG-free energy sources.[35] By using electricity from PG&E, the proposed Project would reduce the long-term use of non-renewable energy resources. Therefore, the proposed Project will not result in any wasteful, inefficient, or unnecessary electrical usage.

Vehicle Miles Traveled

As discussed above, development that meets a locally adopted SB 743 VMT target would be considered to have a less-than-significant GHG emissions impact from transportation sources. The proposed Project would be limited to the construction of a new well to replace lost capacity at other City wells and serve the City's existing and planned potable water needs. Project construction would require a maximum of 13 vehicle trips to and from the Project site each day, and proposed maintenance activities would require an average of one maintenance trip per week, with additional maintenance trips as needed. The proposed Project would not result in a substantial increase in VMT that could interfere with the State's GHG reduction goals.

Electric Vehicle Requirements

Under this design criterion, a project must demonstrate consistency with the Tier 2 measures for off-street EV parking included in the most recently adopted version of CALGreen. CALGreen focuses on sustainable design and construction, including EV readiness, but does not establish standalone minimum vehicle parking space requirements for buildings. Local zoning codes determine whether parking is required. The City of Fresno Zoning Code does not require parking for an equipment storage building associated with the construction of a replacement well. CALGreen's EV requirements are directly correlated to the number of parking spaces required on-site. Because no parking spaces are required for the proposed Project, there are also no

[35] Pacific Gas and Electric Company (PG&E). 2022b. Exploring Clean Energy Solutions. Available at: https://www.pge.com/en_US/about-pge/environment/what-we-are-doing/clean-energy-solutions/clean-energy-solutions.page. Accessed March 2024.

CALGreen EV requirements for the proposed Project. Therefore, the proposed Project would be consistent with this design element.

Conclusion

The proposed Project would be consistent with the project design elements related to natural gas, energy, VMT, and EVs, which demonstrate that the proposed Project is achieving its "fair share" of GHG emission reductions. Therefore, the proposed Project would not generate substantial GHG emissions, or conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

GHG-1 Construction contractors shall implement energy- and fuel-efficient practices throughout all phases of construction to minimize unnecessary energy consumption. These practices shall include, but are not limited to, ensuring that equipment is properly maintained and operated efficiently, prohibiting idling of engines beyond 5 minutes unless necessary for safety or operational reasons, and scheduling construction activities to minimize simultaneous operation of multiple high-energy-use equipment. Contractors shall also be required to train equipment operators in energy conservation techniques and monitor on-site activities to prevent wasteful or unnecessary use of energy and fuel.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HAZARDS AND HAZARDOUS MATERIALS – Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			X	
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?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials 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?				X
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 for people residing or working in the project area?			X	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			X	
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			X	

DISCUSSION

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less Than Significant Impact. The proposed Project would require limited quantities of hazardous substances, including, but not limited to, gasoline, diesel fuel, hydraulic fluid, solvents, oils, and paints during construction, which has the potential to result in an accidental spill or release. However, all materials used during construction would

be contained, stored, and handled in compliance with applicable standards and regulations established by the USEPA, U.S. Occupational Safety and Health Administration (OSHA), and California Department of Toxic Substances Control (DTSC). All storage, handling, and disposal of hazardous materials during Project construction would be required to comply with applicable safety standards and regulations.

Operation of the proposed Project would include an average of one maintenance trip per week, with additional maintenance trips as needed; therefore, the well would be properly maintained, which would reduce the potential for long-term risk associated with hazards at the Project site. Further, operational maintenance trips would also be conducted in accordance with applicable USEPA, OSHA, and DTSC safety standards and regulations for the handling, transport, and storage of hazardous materials. The proposed Project would be subject to the preparation of a Business Plan for GAC and/or chlorination facilities to address Phase III of the proposed Project, which consists of the construction of wellhead treatment facilities. Compliance with existing regulations would reduce the potential for accidental spills to occur during operational maintenance activities. Based on required compliance with existing regulations, impacts associated with the routine transport, use, or disposal of hazardous materials would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. As previously discussed, temporary construction activities would include the use of construction equipment, vehicles, and commonly used hazardous substances, including, but not limited to, paint, solvents, oils, fuel, and gasoline. In addition, operational maintenance activities may require the use of gasoline, fuels, cleaners, and other hazardous substances. Commonly used hazardous substances within the Project site would be transported, stored, and used according to regulatory requirements and existing procedures for the handling of hazardous materials. Compliance with existing regulations would reduce the potential for accidental spills to occur during construction and operational maintenance activities.

Aerially deposited lead (ADL) from the historical use of leaded gasoline exists along heavily traveled roadways throughout California (i.e., Principal Arterial roadways, freeways, and expressways). The proposed Project includes off-site improvements along North Marks Avenue and West San Madele Ave, including, but not limited to, curb and gutter, street paving, and sidewalks as required. In addition, the proposed Project includes installation of a driveway and driveway approach off West San Madele Avenue to provide access to the site. According to the Caltrans California Road System – Functional Classification,[36] North Marks Avenue is classified as a

[36] California Department of Transportation (Caltrans). 2024. California Road System – Functional Classification. Available at:

minor arterial roadway and West San Madele Avenue is classified as a local roadway; therefore, ADL is not expected to occur within the Project site due to the relatively limited use of these roadways. As discussed in Section III, *Air Quality*, the Project site is not located in an area with known potential for NOA.[37] Therefore, construction activities would not have the potential to expose workers or surrounding land uses to harmful levels of NOA. The proposed Project would not include demolition activities that could result in the release of ACM or LBP. Further, required compliance with SJVAPCD Rule 8021 Section 6.3 would reduce impacts related to Valley Fever. Based on required compliance with USEPA, OSHA, and DTSC requirements, the proposed Project would not create significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment. Therefore, impacts would be *less than significant*, and mitigation is not required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The closest existing school is Malloch Elementary School, located approximately 0.70 mile northeast of the Project site. The Project site is not located within 0.25 mile of an existing school and there are no proposed schools within 0.25 mile of the Project site. The proposed 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. Therefore, *no impact* would occur, and mitigation is not required.

d) Be located on a site which is included on a list of hazardous materials 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?

No Impact. According to the DTSC EnviroStor[38] and State Water Board GeoTracker[39] databases, the Project site is not located on a federal superfund site, State response site, voluntary cleanup site, school cleanup site, evaluation site, school investigation site, military evaluation site, tiered permit site, or corrective action site. Additionally, the Project site is not included on the list of hazardous waste sites compiled pursuant to California Government Code Section 65962.5.[40] As a result, no hazards to the

https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=026e830c914c495797c969a3e5668538. Accessed April 2025.

[37] California Geological Survey (CGS). 2011. *Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California*.

[38] California Department of Toxic Substances Control (DTSC). 2025. EnviroStor. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=fresno. Accessed April 2025.

[39] State Water Resources Control Board (State Water Board). 2025. GeoTracker. Available at: https://geotracker.waterboards.ca.gov/. Accessed April 2025.

[40] California Environmental Protection Agency (CalEPA). 2018. Government Code Section 65962.5(a) Hazardous Waste and Substances Site List. Available at: https://calepa.ca.gov/sitecleanup/corteselist/section-65962-5a/. Accessed April 2025.

public or environment are anticipated. Therefore, *no impact* would occur, and mitigation is not required.

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, result in a safety hazard for people residing or working in the project area?

Less Than Significant Impact. The nearest medical center helipad to the Project site is at the Saint Agnes Medical Center,[41] located approximately 4.5 miles northeast of the Project site. The nearest airports include the Sierra Sky Airport, located approximately 2 miles northwest of the Project site; the Fresno Yosemite International Airport, located approximately 6.5 miles southwest of the Project site; and the Fresno Chandler Executive Airport, located approximately 5.6 miles south of the Project site. Each of these airports is considered under the *Fresno County Airport Land Use Compatibility Plan* (Fresno County ALUCP),[42] which guides local jurisdictions in determining appropriate compatible land uses with detailed findings and policies.

The Fresno County ALUCP includes airport safety zone maps that are based on the likelihood of aircraft accidents adjacent to airports. The Project site is located within the Precision Approach Zone (PAZ) associated with Sierra Sky Airport, where aircraft accident risk level is low. For PAZs, the ALUCP proposes a maximum non-residential intensity of 300 persons per acre, with 10% required open land. Hazards to flight, outdoor stadiums, and similar high-intensity uses are prohibited. Airport disclosures are required, as well as project review for objects taller than 100 feet. In addition, new structures cannot penetrate 14 Code of Federal Regulations (CFR) Part 77 surfaces. Although the Project site is within 2 miles of the Sierra Sky Airport, the proposed Project is limited to the development of a new well and associated improvements, and operations would not pose a safety hazard for people working at or visiting the Project site, nor does any aspect of the proposed Project conflict with the requirements in the ALUCP for Traffic Pattern Zones. The proposed Project would not include any structures higher than 100 feet, hazardous uses, hazards to flight, or other land uses prohibited in PAZs. In addition, the proposed Project would not include any structures that would penetrate 14 CFR Part 77 surfaces. The proposed Project would not result in a safety hazard for people working in the Project area. Therefore, impacts would be *less than significant*, and mitigation is not required.

f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The City does not have an adopted Emergency Response and Evacuation Plan; however, the *Fresno County Multi-Jurisdictional*

[41] California Department of Transportation (Caltrans). 2019. Caltrans HeliPlates. Available at: https://heliplates.dot.ca.gov/#. Accessed April 2025.

[42] Fresno Council of Governments (FCOG). 2021. *Fresno County Airport Land Use Compatibility Plan*. December 2018; Amended December 2021. Available at: https://www.dropbox.com/scl/fi/clh8iltq4f3eb10qyp93i/Fresno-Updated-ALUCP-Amended-Oct-2023.pdf?rlkey=e4ao8oy6ifk2btgzci95szb0u&e=1&dl=0. Accessed April 2025.

Hazard Mitigation Plan[43] contains several goals and policies regarding emergency evacuation, including Objective 1.3: *Improve community transportation corridors to allow for better evacuation routes for the public and better access for emergency responders*. The proposed Project would include the construction of a new well pump in the northern portion of the City. Temporary traffic controls may be necessary during the construction period; however, full road closure would not be necessary and vehicle travel would be maintained along proximate roadways. Therefore, the proposed Project would not result in the alteration of existing roadways that could interfere with emergency evacuation routes within the City or an adopted emergency response plan. The proposed Project would be consistent with the *Fresno County Multi-Jurisdictional Hazard Mitigation Plan.*[44] Therefore, impacts would be *less than significant*, and mitigation is not required.

g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

Less Than Significant Impact. The Project site is located in an area mapped as a Local Responsibility Area (LRA) Unzoned, indicating that the area is urbanized and not susceptible to wildland fire. Additionally, the Project site is not located within a very high fire hazard severity zone (VHFHSZ).[45] The Project site is located in a highly developed area and does not consist of physical characteristics that would exacerbate wildfire risks. The proposed Project would be required to comply with the California Fire Code (CFC) to reduce risk associated with wildfire ignition at the Project site. Based on required compliance with the CFC, the proposed Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. Therefore, impacts would be *less than significant,* and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

[43] Fresno County. 2018. *Fresno County Multi-Jurisdictional Hazard Mitigation Plan*. May. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/FresnoCountyHMPFinal.pdf. Accessed April 2025.

[44] Fresno County. 2018. *Fresno County Multi-Jurisdictional Hazard Mitigation Plan*. May. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/FresnoCountyHMPFinal.pdf. Accessed April 2025.

[45] California Department of Forestry and Fire Protection (CAL FIRE). 2025. Fire Hazard Severity. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed May 2025.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. HYDROLOGY AND WATER QUALITY – Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?			X	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			X	
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:			X	
i) Result in a substantial erosion or siltation on- or off-site;			X	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site:			X	
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			X	
iv) impede or redirect flood flows?			X	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				X

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			X	

DISCUSSION

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less Than Significant Impact. The State Water Board and nine RWQCBs (collectively referred to as the California Water Boards) regulate the water quality of surface water and groundwater throughout California. The Project site is within the jurisdiction of the Central Valley RWQCB. There are no surface water features located within or adjacent to the Project site; therefore, the proposed Project would not result in direct disturbance to any surface water features.

Pollutants of concern during construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. Ground disturbance and the use of construction equipment and vehicles during proposed construction activities have the potential to result in erosion and other pollutants that could run off to surrounding areas. There are no surface water resources located within or adjacent to the Project site. The proposed Project would be required to comply with City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control), which requires the implementation of BMPs to reduce and/or eliminate pollutant discharge during construction. In compliance with the General Plan, any development project disturbing 1 or more acres of soil must obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ). Construction activities subject to the Construction General Permit includes clearing, grading, and other ground-disturbing activities such as stockpiling or excavation. The Construction General Permit requires development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The proposed Project would disturb less than 1 acre of soil and would not be required to comply with RWQCB General Construction Permit requirements. Long-term operation impacts associated with the proposed Project would be reduced to less-than-significant levels with the implementation of the City's Storm Drainage and Flood Control Master Plan (SDFCMP), which manages the City's stormwater drainage systems, and the City's participation in the Phase 1 National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges From Municipal Separate Storm Sewer Systems (Phase 1 MS4), which requires the City to implement water quality and watershed protection measures for all development projects. In addition, drilling and operation of the well would be required to comply with DWR California Well Standards, Combined

(DWR Bulletin 74-81[46] and Bulletin 74-90[47]) for the protection of groundwater resources.

Following well completion, the water would be tested to ensure that no contaminants are present. The pump station would be sized and configured to accept water remediation facilities, primarily an iron and manganese filtration system and GAC filtration system, in the event that synthetic organic compounds, such as agricultural pesticides (DBCP, EDB, etc.) or industrial solvents (PCE, TCE, etc.) are detected in the groundwater at concentrations exceeding the maximum allowable contaminant levels set by the USEPA and/or State Water Board. Further, all equipment associated with well drilling and testing would be disinfected in accordance with National Sanitation Foundation (NSF)-certified products and requirements. Therefore, the new pump station would not increase contaminants in the City's water supply. Further, current groundwater recharge conditions are adequate to account for the increase in groundwater pumping associated with the proposed Project; therefore, the proposed Project would not result in over-pumping that could otherwise increase the potential to introduce new contaminants to the City's water supply. Therefore, impacts would be *less than significant*, and mitigation is not required.

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

Less Than Significant Impact. The Project site is located in the Kings Subbasin of the San Joaquin Valley Groundwater Basin.[48] The Kings Subbasin encompasses an area of approximately 976,000 acres (1,530 square miles) within Fresno, Kern, and Tulare Counties; therefore, a marginal increase in impervious surface area at the Project site would not substantially interfere with groundwater recharge in a manner that could impede sustainable groundwater management of the basin.

The City's water supply includes groundwater from the North Kings Subbasin, surface water from the Central Valley Project (CVP) through a contract with the U.S. Bureau of Reclamation, Kings River water through a contract with Fresno Irrigation District (FID), and recycled water. The new production well at proposed Pump Station 290A would pump groundwater into the City's water distribution system, ensuring a safe and reliable source of drinking water for City residents. The purpose of the proposed Project is to replace an existing water well that produced 900 gpm but was taken out

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[46] California Department of Water Resources (DWR). 1981. *Bulletin 74-81, Water Well Standards: State of California*. State of California The Resources Agency, Department of Water Resources, Department of Water Resources. December. Available at: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards. Accessed May 2025.

[47] California Department of Water Resources (DWR). 1991. *Bulletin 74-90, California Well Standards (Supplement to Bulletin 74-81)*. June. Available at: https://water.ca.gov/Programs/Groundwater-Management/Wells/Well-Standards/Combined-Well-Standards. Accessed May 2025.

[48] California Department of Water Resources (DWR). 2006. *San Joaquin Valley Groundwater Basin Kings Subbasin*. California's Groundwater Bulletin 118. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_08_KingsSubbasin.pdf. Accessed April 2025.

of service and destroyed due to sand production problems and non-compliance with modern sanitary well construction standards. The proposed replacement well is expected have an estimated production capacity of 1,500 gpm.

The City's *2020 Urban Water Management Plan*[49] identifies objectives for the City's future water supply and to balance groundwater operations through a host of strategies. The City has designed a comprehensive plan to accomplish this objective by increasing surface water supplies and surface water treatment facilities, intentional recharge, and conservation, in order to reduce groundwater pumping. The City continually monitors impacts of land use changes and development project proposals on water supply facilities by assigning fixed demand allocations to each parcel by land use as currently zoned or proposed to be rezoned. The City has indicated that groundwater wells, pump stations, recharge facilities, water treatment, and distribution systems shall be expanded incrementally to meet increased water demands.

The proposed Project would aid in replacing lost capacity from existing wells in Mixing Area 6, an area identified in the August 2019 *Drinking Water Infrastructure Renewal and Replacement Plan*[50] as having a high likelihood of well failure and a critical need for infrastructure renewal. Rather than increasing groundwater extraction, the proposed Project would restore and maintain service levels in response to anticipated failures of nearby wells, specifically PS 272 and PS 292, which currently operate at higher annual runtimes, indicating substantial demand. In accordance with the City's *Draft Well Site Development Manual*,[51] no new wells would be constructed within 0.25 mile of PS 290A, which helps prevent localized overdraft and protects the functionality of adjacent wells. Additionally, the *City of Fresno Metropolitan Water Resources Management Plan – Phase 2 Development and Evaluation of Future Water Supply Plan*[52] projected the need for 65 new wells between 2005 and 2025, but only 49 have been drilled, with 33 active, 10 inactive, and six under construction, excluding PS 290A. This demonstrates that the City's groundwater production remains below planned thresholds. Therefore, the proposed Project is aligned with the City's water supply planning and would not increase groundwater production in a manner that could interfere with sustainable groundwater management of the basin.

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[49] City of Fresno. 2021a. *Final 2020 Urban Water Management Plan*. City of Fresno Department of Public Utilities. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/Fresno-2020-UWMP_Final_2021-07-21.pdf. Accessed April 2025.

[50] AKLE Engineering Group, Inc.; Kleinfelder. 2019. *Drinking Water Infrastructure Renewal and Replacement Plan, August 2019 Final Draft*.

[51] City of Fresno. 2011. *Well Site Development Manual, Draft Edition 1*. City of Fresno Water Division.

[52] City of Fresno. 2011. *City of Fresno Metropolitan Water Resources Management Plan – Phase 2 Development and Evaluation of Future Water Supply Plan*. City of Fresno Department of Public Utilities. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/Phase2DevelopmentandEvaluationofFutureWaterSupplyPlanJan2011.pdf. Accessed October 2025.

The proposed Project would not substantially deplete groundwater supplies or interfere with groundwater recharge. Therefore, impacts would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. The proposed Project would not result in direct alteration of any drainage or surface water features. Construction activities would result in approximately 0.29 acre of ground disturbance, including approximately 135 CY of cut and 38 CY of fill, which has the potential to result in an increase in erosion that could run off from the Project site to surrounding areas. The proposed Project would be required to comply with City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control), which requires the implementation of BMPs to reduce erosive runoff during construction. Following Project construction, the Project site would be covered with hardscapes, which would reduce the potential for long-term erosion to occur at the Project site. Based on the limited amount of earthwork and required compliance with City requirements, impacts related to substantial erosion would be *less than significant*, and mitigation is not required.

ii. Substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?

Less Than Significant Impact. The proposed Project would not result in direct alteration of any drainage or surface water features. The Project site is currently undeveloped; therefore, implementation of the proposed Project would result in an increase in impervious surface area at the Project site that could increase the rate of surface water runoff. The proposed Project would result in approximately 1,251 square feet of new paved area. The proposed Project would be subject to City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control) and the Fresno Metropolitan Flood Control District (FMFCD) *2016 District Services Plan*[53] for long-term drainage requirements. Based on required compliance with City stormwater requirements, the increase in impervious surface area associated with the proposed Project would not increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Therefore, impacts would be *less than significant*, and mitigation is not required.

[53] Fresno Municipal Flood Control District (FMFCD). 2016. *2016 District Services Plan*. Available at: https://www.fresnofloodcontrol.org/wp-content/uploads/2022/09/2016-District-Services-Plan-Final.pdf. Accessed March 2025.

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?

Less Than Significant Impact. The proposed Project would not result in direct alteration of any drainage or surface water features. The Project site is currently undeveloped; therefore, implementation of the proposed Project would result in an increase in impervious surface area at the Project site that could increase the rate of surface water runoff. The proposed Project would result in approximately 1,251 square feet of new paved area. The proposed Project would be subject to City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control) for the implementation of BMPs to reduce and/or eliminate pollutant discharge from entering the City's storm drain system during construction and operation. Further, the proposed Project would be required to implement water quality and watershed protection measures in accordance with the FMFCD *2016 District Services Plan*. Based on required compliance with City stormwater requirements, the increase in impervious surface area associated with the proposed Project would not substantially increase the amount of impervious surface area on the Project site that could increase the rate or amount of surface water or pollutant runoff. The proposed Project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, impacts would be *less than significant*, and mitigation is not required.

iv. Impede or redirect flood flows?

Less Than Significant Impact. Regulations in 40 CFR Part 60 and the City's Floodplain Ordinance require that placement and flood provision structures within a floodplain not result in a cumulative change in the floodplain water surface that exceeds 1 foot. In addition, the regulations under 40 CFR 60 do not allow placement of structures within a regulatory floodway unless that placement would not result in any increase in the floodplain water surface elevation, meaning that there is no displacement or redirection of the floodway. The City's Floodplain Ordinance requires that a registered Civil Engineer in the State of California certify that no displacement of floodwater would result from the flood proofing of a structure within a floodplain or a regulatory floodway.

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) 06016C1555H (effective date 2/18/2009), the Project site and surrounding area are located in Zone X, an area of minimal flood hazard.[54] Therefore, the potential for flood flows to occur at the Project site is very low. Further, the proposed Project would be subject to City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control) requirements for the implementation of BMPs to reduce and/or eliminate pollutant discharge from entering the City's storm drain system during construction and

[54] Federal Emergency Management Agency (FEMA). 2025. FEMA Flood Map Service Center: Search By Address. Available at: https://msc.fema.gov/portal/search?AddressQuery#searchresultsanchor. Accessed April 2025.

operation. The proposed Project would also be required to implement water quality and watershed protection measures in accordance with the FMFCD *2016 District Services Plan*.[55] Based on required compliance with City stormwater requirements, the increase in impervious surface area associated with the proposed Project would not impede or redirect flood flows. Therefore, impacts would be *less than significant*, and mitigation is not required.

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

No Impact. The Project site is not located in a flood, tsunami, or seiche zone, and the proposed Project would not risk the release of pollutants due to Project inundation. Therefore, *no impact* would occur, and mitigation is not required.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less Than Significant Impact. The City is located within the Kings Subbasin, which is part of the larger San Joaquin Valley Groundwater Basin.[56] The planning documents regarding water resources for the City include the North Kings Groundwater Sustainability Agency (GSA) Groundwater Management Plan, the City's *2020 Urban Water Management Plan*, [57] and City's Metropolitan Water Resources Management Plan. The proposed Project would be required to adhere to NPDES drainage control requirements during construction and operation as well as to FMFCD drainage control requirements. As a result, the proposed Project would not conflict with any applicable water quality control plan or groundwater management plan, and the impact would be less than significant.

The Project site is located in the Kings Subbasin of the San Joaquin Valley Groundwater Basin (DWR Groundwater Subbasin Number 5-22.08).[58] As evaluated in *Impact Discussion X.b)*, the purpose of the proposed Project is to replace an existing water well in order to restore lost capacity needed to maintain reliable potable water service in an area with a high risk of well failure. Although the new well would have a higher production capacity of approximately 600 gpm more than the original well, this does not represent a true increase in overall groundwater extraction for the area.

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[55] Fresno Municipal Flood Control District (FMFCD). 2016. *2016 District Services Plan*. Available at: https://www.fresnofloodcontrol.org/wp-content/uploads/2022/09/2016-District-Services-Plan-Final.pdf. Accessed March 2025.

[56] California Department of Water Resources (DWR). 2006. *San Joaquin Valley Groundwater Basin Kings Subbasin*. California's Groundwater Bulletin 118. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_08_KingsSubbasin.pdf. Accessed April 2025.

[57] City of Fresno. 2021a. *Final 2020 Urban Water Management Plan*. City of Fresno Department of Public Utilities. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/Fresno-2020-UWMP_Final_2021-07-21.pdf. Accessed April 2025.

[58] California Department of Water Resources (DWR). 2006. *San Joaquin Valley Groundwater Basin Kings Subbasin*. California's Groundwater Bulletin 118. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/5_022_08_KingsSubbasin.pdf. Accessed February 2024.

Instead, the proposed Project is intended to restore and maintain service levels in response to anticipated failures of nearby wells, consistent with the City's long-term water supply planning and the sustainable management of the groundwater basin. Further, the Project site would be limited to a marginal increase in impervious surface area within the Kings Subbasin. Therefore, the proposed Project would not decrease groundwater supply or interfere with groundwater recharge in a manner that would impede sustainable management of the groundwater basin. The Project site is under the jurisdiction of the Central Valley RWQCB and would be subject to *The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region* (Basin Plan),[59] which establishes water quality objectives for beneficial uses of water resources within the Sacramento and San Joaquin River Basins. The proposed Project would be required to comply with City Municipal Code Chapter 6, Article 7 (Urban Storm Water Quality Management and Discharge Control), which requires the implementation of BMPs to reduce and/or eliminate pollutant discharge during construction. Further, the proposed Project would be required to implement water quality and watershed protection measures in accordance with the FMFCD *2016 District Services Plan* to address long-term drainage conditions. Based on required compliance with City requirements, the proposed Project would not violate any RWQCB water quality standards or waste discharge requirements. The proposed Project would be consistent with sustainable management of the San Joaquin Valley groundwater basin and the Basin Plan. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XI. LAND USE AND PLANNING – Would the project:				
a) Physically divide an established community?				X

[59] Regional Water Quality Control Board (RWQCB). 2019. *The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board Central Valley Region*. Fifth Edition. California Regional Water Quality Control Board Central Valley Region. Revised February 2019 (with Approved Amendments). Available at: https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/sacsjr_201902.pdf. Accessed February 2024.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?		X		

DISCUSSION

a) Physically divide an established community?

No Impact. The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community or between a community and outlying areas. For example, the construction of an interstate highway through an existing community may constrain travel from one side of the community to another; similarly, such construction may also impair travel to areas outside of the community.

The Project site consists of an undeveloped 0.29-acre parcel characterized by highly disturbed bare ground areas with scattered ruderal vegetation. Surrounding land uses include single-family residential units to the east, west, north, and south. The proposed Project would result in the construction of a replacement water well and associated on- and off-site improvements, including, but not limited to, curb and gutter, street paving, and sidewalks, as required. These improvements would not affect connectivity and would not divide an established community. Therefore, the proposed Project would have *no impact* related to physically dividing an established community, and mitigation is not required.

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?

Less Than Significant with Mitigation Incorporated. The Project site is located outside of the Fresno City limits but within the City's SOI. The Project site is designated Medium-Low Density Residential in the City's General Plan; Single-family, Low-Density Residential in the County of Fresno Zoning Ordinance; and Single Family, Low Density Residential in the County of Fresno General Plan. All future operational uses of the Project site would be consistent with the "permitted" uses for the Project site's zoning and land use designation, which allows for the development of public utility facilities as shown in Table 15-902, *Use Regulations—Residential Single-Family Districts*, in the City's Municipal Code and Table 2-4, *Allowable Uses and Permit Requirements for Residential Zones*, in the County's Zoning Ordinance.

As evaluated throughout this Initial Study, the proposed Project would be consistent with standards and policies set forth in the City's General Plan, Municipal Code, and other applicable planning documents referenced throughout this document. The proposed Project would be required to implement Mitigation Measure AES-1, included in Section I, *Aesthetics*; Mitigation Measures AQ-1 through AQ-3, included in Section III, *Air Quality*; Mitigation Measure BIO-1, included in Section IV, *Biological Resources*; Mitigation Measure CR-1, included in Section V, *Cultural Resources*; Mitigation Measure GEO-1, included in Section VII, *Geology and Soils*; and Mitigation Measures N-1 through N-3, included in Section XIII, *Noise*, to mitigate potential impacts associated with Aesthetics, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils, and Noise, which is consistent with the identified plans and policies intended to avoid or mitigate adverse environmental effects. Upon implementation of the identified mitigation, the proposed Project would not conflict with other local policies or regulations adopted for the purpose of avoiding or mitigating environmental effects, and impacts would be *less than significant with mitigation*.

Mitigation Measures

Implement Mitigation Measure AES-1, included in Section I, *Aesthetics*; Mitigation Measures AQ-1 through AQ-3, included in Section III, *Air Quality*; Mitigation Measure BIO-1, included in Section IV, *Biological Resources*; Mitigation Measure CR-1, included in Section V, *Cultural Resources*; Mitigation Measure GEO-1, included in Section VII, *Geology and Soils*; and Mitigation Measures N-1 through N-3, included in Section XIII, *Noise*.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XII. MINERAL RESOURCES – 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?				X
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?				X

DISCUSSION

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?

No Impact. The principal area for mineral resources in the City of Fresno is located along the San Joaquin River Corridor. The California Department of Mines and Geology classifies lands along the San Joaquin River Corridor as Mineral Resource Zone (MRZ)-1, MRZ-2, and MRZ-3. The Project site is not located in the vicinity of the San Joaquin River, is not an MRZ, and does not contain an MRZ. The proposed Project would not result in the loss of availability of a known mineral resource of value to the region or residents of the State. Therefore, *no impact* would occur, and mitigation is not required.

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?

No Impact. Refer to *Impact Discussion XII(a)*. The proposed Project would not result in the loss of availability of any known locally important mineral resource recovery sites. Therefore, *no impact* would occur, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIII. NOISE – 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?		X		
b) Generation of excessive groundborne vibration or groundborne noise levels?			X	

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No 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?			X	

DISCUSSION

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 in other applicable local, state, or federal standards?

Less Than Significant with Mitigation Incorporated. The following analysis is based on the *Noise & Groundborne Vibration Impact Analysis Pump Station 290A Project* prepared by AMBIENT Air Quality & Noise Consulting for the proposed Project (Appendix B).[60]

Noise is usually defined as unwanted sound and consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, or sleep. Several noise measurement scales exist that are used to describe noise in a particular location. A decibel (dB) is a unit of measurement that indicates the relative intensity of a sound. Sound levels in dB are calculated on a logarithmic basis. An increase of 10 dB represents a 10-fold increase in acoustic energy, while 20 dB is 100 times more intense and 30 dB is 1,000 times more intense. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness; and similarly, each 10 dB decrease in sound level is perceived as half as loud. Sound intensity is normally measured through the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. The A-weighted sound level is the basis for 24-hour sound measurements that better represent human sensitivity to sound at night.

As noise spreads from a source, it loses energy so that the farther away the noise receiver is from the noise source, the lower the perceived noise level would be. Geometric spreading causes the sound level to attenuate or be reduced, resulting in

[60] AMBIENT Air Quality & Noise Consulting. 2025. *Noise & Groundborne Vibration Impact Analysis Pump Station 290A Project*.

a 6 dB reduction in the noise level for each doubling of distance from a single point source of noise to the noise sensitive receptor of concern.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (Leq) is the total sound energy of time-varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the Leq, the community noise equivalent level (CNEL), and the day-night average level (Ldn) based on dBA. CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly Leq for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m. to 7:00 a.m. (defined as sleeping hours). Ldn is similar to the CNEL scale, but without the adjustment for events occurring during the evening relaxation hours. CNEL and Ldn are within one dBA of each other and are normally exchangeable. The noise adjustments are added to the noise events occurring during the more sensitive hours.

A project would have a significant noise effect if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of applicable regulatory agencies, including, as appropriate, the City of Fresno.

Existing Ambient Noise Setting

Noise is addressed in the *Fresno General Plan Noise and Safety Element*[61] and City Municipal Code Chapter 10, Article 1 (Noise Regulations). The City's Noise and Safety Element sets noise standards for stationary noise sources, as shown in Table 4.

Table 4: Stationary Noise Source

	Daytime (7:00 a.m.–10:00 p.m.)	**Nighttime (10:00 p.m.–7:00 a.m.)**
Hourly Equivalent Sound Level (Leq), dBA	50	40
Maximum Sound Level (Lmax), dBA	70	60

Source: City of Fresno (2014e)

Further, according to Implementing Policy NS-1-J of the City's Noise and Safety Element, a significant increase in ambient noise levels is assumed if a project would increase noise levels in the immediate vicinity by 3 dB Ldn or CNEL or more above the ambient noise limits established in the City's General Plan.

[61] City of Fresno. 2014e. *Fresno General Plan, 9: Noise and Safety Element*. Adopted December 18. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/9-Noise-and-Safety-02-03-21.pdf. Accessed April 2025.

Existing ambient noise levels in the Project area consist of vehicle noise along North Marks Avenue, West San Madele Avenue, and other proximate roadways as well as noise from surrounding single-family residential land uses. According to Figure NS-2 of the City's Noise and Safety Element, existing and projected noise levels along North Marks Avenue are between approximately 60 to 75 dB.

Construction-Related Impacts

During Project construction, noise from construction activities may intermittently dominate the noise environment in the immediate Project area. The proposed Project would require the use of typical construction equipment (e.g., dozers, excavators, etc.) during proposed construction and demolition activities. Based on noise measurements conducted for a similar well drilling operation, the combined noise from these sources generates levels of up to approximately 73 dBA L_{eq} at 50 feet.[62]

The nearest noise-sensitive land uses are single-family residences located approximately 10 feet east and 20 feet north the Project site's property line. According to City Municipal Code Section 10-109 (Noise Regulations Exceptions), construction-related noise is exempt from the City's noise standards between the hours of 7:00 a.m. and 10:00 p.m. on any day except Sunday. To the extent feasible, construction activities would be conducted during daytime hours (7:00 a.m.–10:00 p.m.); however, nighttime work over approximately 10 nights may be necessary for well drilling. Predicted construction-generated noise levels at nearby residential land uses, without mitigation, would be 68 dBA L_{eq} or less. Predicted construction noise levels would not exceed the daytime noise threshold of 80 dBA L_{eq}. However, construction activities could exceed the City's nighttime noise standard of 50 dBA L_{eq}.

Mitigation Measure N-1 has been included to reduce construction-related noise through installation of a temporary sound barrier around the perimeter of the Project site in a manner that is sufficient to shield line-of-sight to nearby residential land uses. The temporary sound barrier is required to be constructed to a minimum height of 20 feet above ground level, with no visible gaps between construction materials or at the base of the barrier structure and would have a minimum noise-reduction rating of STC 33. With construction of the required sound barrier through implementation of Mitigation Measure N-1, construction-generated noise levels would be reduced by approximately 20 dBA. The temporary sound barrier(s) is expected to be freestanding; therefore, pile driving would not be necessary. Typical installation methods include sandbags to stabilize the base of the structure or attachment to k-rail.

In addition, Mitigation Measure N-2 has been included to further reduce construction-related noise through implementation of noise-reducing construction BMPs. With implementation of Mitigation Measures N-1 and N-2, the proposed Project would not result in a substantial increase in construction-related noise or exceed City noise standards. Therefore, impacts would be *less than significant with mitigation*.

[62] AMBIENT Air Quality & Noise Consulting. 2025. *Noise & Groundborne Vibration Impact Analysis Pump Station 290A Project*.

Operational Impacts

Operational noise levels would primarily be associated with the operation of the well pump. Noise levels associated with other on-site noise sources, such as the installation of wellhead treatment facilities (e.g., filter vessels), would have a negligible contribution to overall operational noise levels. As currently proposed, the pump would be unenclosed, consisting of an approximate 250-horsepower vertical turbine pump. Based on measurement data from a similar pump, the pump would generate noise levels of approximately 87 dBA L_{eq}. The proposed Project would include the construction of a 6-foot-tall masonry block wall along the perimeter of the Project site, which would serve to attenuate operational noise levels. If required to maintain adequate water supply in the area, the proposed Project might also include the installation of an emergency generator. However, the City of Fresno has determined that operation of the emergency generator would be exempt from noise ordinance requirements, per Section 10-109(a) of the City's Municipal Code and, therefore, not included in the following analysis. Based on the proposed Project components, predicted operational noise levels at nearby land uses range from 51 to 61 dBA L_{eq}, and would not

Predicted operational noise levels at the nearest residential land uses would not exceed the City's noise standard of 60 dBA L_{eq} during the daytime hours (7:00 a.m. to 7:00 p.m.). However, predicted operational noise levels would exceed City's noise standards for residential land uses of 50 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). Predicted operational noise levels at the northern and eastern Project site property lines would also exceed the City's noise standard of 55 dBA L_{eq} during the evening hours (7:00 p.m. to 10:00 p.m.).

Mitigation Measure N-3 requires installation of a pump enclosure that is designed to meet a minimum noise reduction of STC 37. With installation of a pump enclosure, predicted operational noise levels at the nearest residential land uses would be reduced to 41 dBA L_{eq}, or less, and would not exceed the City's daytime, evening, or nighttime noise standards.

With implementation of Mitigation Measure N-3, operational noise levels generated by the proposed Project would not exceed City noise standards; therefore, impacts would be *less than significant with mitigation*.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant Impact. The proposed Project has the potential to generate limited groundborne vibration during drilling of the new well. Equipment for proposed well-drilling activities would be most similar to caisson drilling, which would generate a vibration level of approximately 0.089 inches per second at 25 feet from the source. These vibration levels would fall below the 0.3 inch per second building damage criterion established by Caltrans.[63] No pile driving or other high-impact construction

[63] Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed May 2025.

activities are proposed. No permanent noise sources would be located within the Project site that would expose persons to excessive groundborne vibration or noise levels. In addition, no fragile or historic structures have been identified in the Project area. Construction activities associated with the proposed Project are not expected to result in excessive groundborne vibration or groundborne noise levels. The proposed Project would not permanently expose persons within or around the Project site to excessive groundborne vibration or noise. Therefore, impacts would be *less than significant*, and mitigation is not required.

c) 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, expose people residing or working in the project area to excessive noise levels?

Less Than Significant Impact. The nearest medical center helipad to the Project site is at the Saint Agnes Medical Center,[64] located approximately 4.5 miles northeast of the Project site. The nearest airports include the Sierra Sky Airport, located approximately 2 miles northwest of the Project site; the Fresno Yosemite International Airport, located approximately 6.5 miles southwest of the Project site; and the Fresno Chandler Executive Airport, located approximately 5.6 miles south of the Project site.

Each of these airports is considered under the Fresno County ALUCP, which guides local jurisdictions in determining appropriate compatible land uses with detailed findings and policies. The Fresno County ALUCP includes CNEL noise contours based on projected airport and aircraft operations.[65] The Project site is within 2 miles of the Sierra Sky Airport; however, the Project site is located outside of the CNEL noise contours identified in the Fresno County ALUCP and the proposed Project is limited to the development of a new well and associated improvements. The proposed Project would not expose people residing or working in the Project area to excessive noise levels. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

N-1 A temporary construction barrier shall be constructed prior to initiating onsite construction. The barrier shall be constructed around the perimeter of the Project site sufficient to shield line-of-sight to nearby residential land uses. The barrier shall be constructed to a minimum height of 20 feet above ground level, with no visible gaps between construction materials or at the base of the barrier structure, and with a minimum noise-reduction rating of STC 33.

[64] California Department of Transportation (Caltrans). 2019. Caltrans HeliPlates. Available at: https://heliplates.dot.ca.gov/#. Accessed April 2025.

[65] Fresno Council of Governments (FCOG). 2021. *Fresno County Airport Land Use Compatibility Plan*. December 2018; Amended December 2021. Available at: https://www.dropbox.com/scl/fi/clh8iltq4f3eb10qyp93i/Fresno-Updated-ALUCP-Amended-Oct-2023.pdf?rlkey=e4ao8oy6ifk2btgzci95szb0u&e=1&dl=0. Accessed April 2025.

N-2 For the entire duration of the construction phase of the Project, the following noise reduction measures shall be implemented to ensure that noise levels are maintained within levels allowed by the City of Fresno General Plan Noise and Safety Element:

1. Construction activities (excluding activities that would result in a safety concern to the public or construction workers) shall be limited to between the hours of 7:00 a.m. and 10:00 p.m., Monday through Saturday. Construction activities shall be prohibited on Sundays and legal holidays.
2. Stationary construction equipment that generates noise that exceeds 65 A-weighted decibels (dBA) at the Project boundaries shall be shielded with the most modern noise control devices (i.e., mufflers, lagging, and/or motor enclosures).
3. Impact tools (e.g., jackhammers, pavement breakers, rock drills, etc.) used for Project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools.
4. Where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used.
5. Construction equipment shall be properly maintained and equipped with noise-reduction intake and exhaust mufflers and engine shrouds, in accordance with manufacturers' recommendations. Equipment engine shrouds shall be closed during equipment operation.
6. All construction equipment shall undergo inspection at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers, shrouding, etc.).
7. When not in use, all equipment shall be turned off and shall not be allowed to idle. The construction contractor shall provide clear signage that posts this requirement for workers at the entrances to the Project site.
8. The Project contractor shall inform residents at properties within 300 feet of the Project of proposed construction timelines and noise compliant procedures to minimize potential annoyance related to construction noise.

N-3 Prior to issuance of buildings permits, final constructions plans shall show that the well pump is fully enclosed. The enclosure shall be designed to achieve a minimum noise reduction of STC 37. Any vents to be installed on the pump enclosure shall be baffled/acoustic rated. To the extent possible, any vents to be installed on the enclosure should be directed away from the nearest residential dwelling located to the north of the Project site.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIV. POPULATION AND HOUSING – Would the project:				
a) 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)?			X	
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				X

DISCUSSION

a) 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)?

Less Than Significant Impact. The proposed Project would not include the construction of residences or other uses that could directly induce population growth in the City. The proposed Project would be limited to the construction of a new well to replace the loss of another well within the City. The purpose of the replacement well is to meet the City's existing and planned potable water needs; therefore, the proposed Project would not remove a barrier to growth that could generate population growth. Proposed construction activities would be conducted by approximately 11 construction workers per day during Project construction and would have the potential to generate short-term employment opportunities; however, Project construction is expected to use workers from the local employment force and would not require workers to relocate to the City. Operational maintenance activities would be conducted by existing City employees; therefore, the proposed Project would not result in new employment opportunities. The proposed Project would not result in substantial or unplanned population growth directly or indirectly. Therefore, impacts would be *less than significant*, and mitigation is not required.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Project site is entirely undeveloped. The proposed Project would not require the demolition or removal of existing housing and would not necessitate the displacement or removal of existing housing. Therefore, *no impact* would occur, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XV. PUBLIC SERVICES – Would the project:				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				X
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

DISCUSSION

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:

i. Fire protection?

No Impact. The Fresno Fire Department (FFD) would provide fire protection services to the Project site. There are 20 FFD fire stations in Fresno, with the closest fire station, Fire Station 12, located approximately 0.75 mile south of the Project site. The proposed Project would not include the construction of new buildings or structures that would directly increase demand on existing fire protection services. The proposed Project would include the construction of a new well to replace an existing water well that was taken out of service and destroyed.

The replacement well will serve the City's existing and planned potable water needs. The proposed Project would not generate population growth in a manner that could substantially increase demand on existing fire protection services within the City or require new or physically altered governmental facilities for fire protection services. Therefore, *no impact* would occur, and mitigation is not required.

ii. Police protection?

No Impact. The Fresno County Sheriff provides law enforcement protection to the Project site. The proposed Project would not include the construction of new residences, businesses, or other uses that would directly increase demand on existing police protection services. The proposed Project would be limited to the construction of a replacement well and would not generate population growth in a manner that could substantially increase demand on existing police protection services within the City or require new or physically altered governmental facilities for police protection services. Therefore, *no impact* would occur, and mitigation is not required.

iii. Schools?

No Impact. The Fresno Unified School District (FUSD) serves more than 74,000 students and operates 64 elementary schools, 15 middle schools, eight high schools, four alternative schools, and three special education schools. As discussed in Section XIV, *Population and Housing*, the proposed Project would not induce direct or indirect population growth; therefore, the proposed Project would not create an increased demand on local schools in a manner that would require new or physically altered facilities. Therefore, *no impact* would occur, and mitigation is not required.

iv. Parks?

No Impact. As discussed in Section XIV, *Population and Housing*, the proposed Project would not induce direct or indirect population growth that could result in deterioration of existing recreation facilities or require the expansion of new facilities. The proposed Project would not create an increased demand on public recreation facilities in a manner that would require new or physically altered facilities. Therefore, *no impact* would occur, and mitigation is not required.

v. Other public facilities?

No Impact. As discussed in Section XIV, *Population and Housing*, the proposed Project would not induce direct or indirect population growth. The proposed Project would not include features that would significantly increase the demand on public facilities, such as libraries or post offices, or result in the need for new or physically altered governmental facilities. Therefore, *no impact* would occur, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVI. RECREATION – Would the project:				
a) 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?				X
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?				X

DISCUSSION

a) 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?

No Impact. As discussed in Section XIV, *Population and Housing*, construction of the replacement well would be conducted by a maximum of 11 construction workers per day, which would have the potential to generate short-term employment opportunities; however, Project construction is expected to use workers from the local employment force and would not result in substantial or unplanned population growth as a result of new employment opportunities. In addition, the proposed Project is limited to the construction of a replacement well; therefore, the proposed Project would not increase groundwater production in a manner that would expand the City's water supply or facilitate population growth within the City. The proposed Project would not generate population growth in a manner that could increase the use of existing recreational facilities, such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, *no impacts* would occur. and mitigation is not required.

b) Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

No Impact. The proposed Project would not include or require the construction or expansion of existing public recreational facilities. Therefore, *no impacts* would occur, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

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

DISCUSSION

a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less Than Significant Impact. The *Fresno General Plan Mobility and Transportation Element*[66] identifies goals and implementing policies related to promoting a City of healthy communities, improving the quality of life in established neighborhoods, planning for all modes of travel on local and major streets in Fresno, providing a well-maintained transportation system, and protecting and improving public health and

[66] City of Fresno. 2014b. *Fresno General Plan, Chapter 4: Mobility and Transportation Element.* Adopted December 18. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/upload_temp4-Mobility-and-Transportation-9-30-2021.pdf. Accessed April 2025.

safety. Additionally, the Fresno Council of Governments (FCOG) *2022 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS)[67] reflects transportation planning for Fresno County through 2046 and is intended to create a region of diverse, safe, resilient, and accessible transportation options that improve the quality of life for all residents by fostering sustainability, equity, a vibrant economy, clean air, and healthy communities. The Project site is in an existing urban area, the proposed Project would be consistent with the existing zoning of the Project site, and the proposed Project would not facilitate substantial or unplanned population growth in a manner that could generate a substantial number of new vehicle trips, which is consistent with the objectives of the City's General Plan and FCOG RTP/SCS. Further, the proposed Project would include the construction of off-site improvements, including sidewalks, curbs, and gutters; driveways; and driveway approaches to provide safe and reliable vehicle and pedestrian facilities. The proposed Project would be consistent with the City's Mobility and Transportation Element and the FCOG RTP/SCS. Therefore, impacts would be *less than significant*, and mitigation is not required.

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

Less Than Significant Impact. SB 743 requires that relevant CEQA analysis of transportation impacts be conducted using a metric known as VMT instead of Level of Service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If a project adds excessive car travel onto our roads, that project may cause a significant transportation impact.

The State CEQA Guidelines were amended to implement SB 743, by adding Section 15064.3. Among its provisions, Section 15064.3 confirms that, except with respect to transportation projects, a project's effect on automobile delay shall not constitute a significant environmental impact. Therefore, LOS measures of impacts on traffic facilities is no longer a relevant CEQA threshold for transportation impacts.

State CEQA Guidelines Section 15064.3(b)(4) states that "[a] lead agency has discretion to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revision to model outputs should be documented and explained in the environmental document prepared for a project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

[67] Fresno Council of Governments (FCOG). 2022. *2022 Regional Transportation Plan/Sustainable Communities Strategy*. Available at: https://www.planfresno.com/sustainable-communities-strategies-fall-outreach/. Accessed April 2025.

On June 25, 2020, the City adopted the *CEQA Guidelines for Vehicle Miles Traveled Thresholds* (City of Fresno VMT Thresholds),[68] pursuant to SB 743, to be effective July 1, 2020. The City of Fresno VMT Thresholds document was prepared and adopted consistent with the requirements of State CEQA Guidelines Sections 15064.3 and 15064.7. The December 2018 *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory)[69] published by the California Governor's Office of Planning and Research (OPR; now the Governor's Office of Land Use and Climate Innovation), was utilized as a reference and guidance document in the preparation of the City of Fresno VMT Thresholds.

The City of Fresno VMT Thresholds adopted a screening standard and criteria that can be used to screen out qualified projects that meet the adopted criteria from needing to prepare a detailed VMT analysis. City of Fresno VMT Thresholds Section 3.0, regarding Project Screening, discusses a variety of projects that may be screened out of a VMT analysis, including specific development and transportation projects. For development projects, conditions may exist that would presume that a development project has a less-than-significant impact; these may be size, location, proximity to transit, or trip-making potential. For transportation projects, the primary attribute to consider with transportation projects is the potential to increase vehicle travel, sometimes referred to as "induced travel."

The proposed Project is eligible to screen out because the proposed Project generates a low volume of daily traffic. Project construction would require a maximum of 13 vehicle trips to and from the Project site each day, and proposed maintenance activities would require an average of one maintenance trip per week, with additional maintenance trips as needed. According to the City of Fresno VMT Thresholds, a project can be screened out if it would generate less than 500 average daily trips; the proposed project's average daily trips during construction and operation would fall well below this threshold. The proposed Project would be consistent with State CEQA Guidelines Section 15064.3(b). Therefore, the VMT generated by the proposed Project and the associated environmental impacts would be *less than significant*, and mitigation is not required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less Than Significant Impact. The proposed Project would include the construction of off-site improvements, including sidewalks, curbs, and gutters; driveways; and driveway approaches. Proposed improvements would be planned and constructed in

[68] City of Fresno. 2020a. *CEQA Guidelines for Vehicle Miles Traveled Thresholds*. June 18. Available at: https://fresno.legistar.com/View.ashx?M=F&ID=8601948&GUID=9AEF1630-3BE3-45BF-9BB8-3D4BB9DB1677. Accessed April 2025.

[69] California Governor's Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December. Available at: https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf. Accessed April 2025.

accordance with City Public Works Department Standard Specifications[70] to avoid hazardous design features. Installation of proposed pedestrian facilities would ultimately improve pedestrian safety within the Project area by creating protected pedestrian pathways in an area where there are currently no sidewalks. Further, the proposed Project does not include the establishment of incompatible land uses that could otherwise introduce roadway hazards to existing proximate roadways. Therefore, the proposed Project would not substantially increase the risk of roadway or pedestrian hazards. Therefore, impacts would be *less than significant*, and mitigation is not required.

d) Result in inadequate emergency access?

Less Than Significant Impact. Access to the Project site would be provided via one new driveway located off West San Madele Avenue to the south. The proposed driveway and driveway approach would be constructed in accordance with City Public Works Department Standard Specifications[71] to ensure adequate emergency vehicle and other vehicle ingress and egress. Construction activities may require temporary traffic controls or road closures; however, full road closure would not be necessary and vehicle travel would be maintained along proximate roadways. The proposed Project would not result in inadequate emergency access. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

[70] City of Fresno. 2021b. *Standard Specifications*. City of Fresno Department of Public Works. March 5. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/City-of-Fresno-Standards-Vol-2-Std.-Specifications_Mar-2021-Accessible.pdf. Accessed April 2025.

[71] City of Fresno. 2021b. *Standard Specifications*. City of Fresno Department of Public Works. March 5. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/City-of-Fresno-Standards-Vol-2-Std.-Specifications_Mar-2021-Accessible.pdf. Accessed April 2025.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVII. TRIBAL CULTURAL RESOURCES – Would the project:				
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC section 21074 as either a site, feature, place, 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:		X		
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k), or,				X
ii) 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 PRC section 5024.1. In applying the criteria set forth in subdivision (c) of PRC section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		X		

DISCUSSION

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, 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:

i. 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), or

No Impact. As previously discussed in Section V, *Cultural Resources*, the Project site is entirely undeveloped and does not consist of any buildings or structures that could qualify for listing as a historical resource and is not located in a historic district. The proposed Project would not cause a substantial adverse change in the significance of a Tribal historical resource. Therefore, *no impact* would occur, and mitigation is not required.

ii. 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 Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

Less Than Significant with Mitigation Incorporated. The State requires lead agencies to consider the potential effects of proposed projects and consult with California Native American Tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Resources through the State CEQA Guidelines. Pursuant to PRC Section 21080.3.1, the lead agency shall begin consultation with the Native American Tribe that is traditionally and culturally affiliated with the geographical area of the proposed Project. Such significant cultural resources are either sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a Tribe that is either in or eligible for inclusion in the CRHR or a local historic register, or, the lead agency, at its discretion, and support by substantial evidence, choose to treat the resources as a Tribal Cultural Resources (PRC Section 21074(a)(1-2)).

Additional information may also be available from the NAHC SLF per PRC Section 5097.96 and the CHRIS SSJVIC, administered by the California Office of Historic Preservation. Please also note that PRC Section 21082.3(c) contains provisions specific to confidentiality.

AB 52, which became law January 1, 2015, requires that, as part of the CEQA review process, public agencies provide early notice of a project to Native American Tribes to allow for consultation between the Tribe and the public agency. The purpose of AB 52 is to provide the opportunity for public agencies and Tribes to consult and consider potential impacts to Tribal Cultural Resources, as defined

by PRC Section 2107(a). Under AB 52, public agencies shall reach out to Native American Tribes who have requested to be notified of projects in areas within or that may have been affiliated with their Tribal geographic range. Pursuant to AB 52, Native American Tribes traditionally and culturally affiliated with the Project area were invited to consult regarding the proposed Project based on a list of contacts provided by the NAHC. The City mailed notices of the proposed Project to each of these Tribes on June 17, 2025, which included the required 30-day time period for Tribes to request consultation, which ended on July 17, 2025. All Tribes that were contacted declined consultation.

As previously discussed in Section V, *Cultural Resources*, based on searches of the SSJVIC records and NAHC SLF, there are no previously recorded archaeological resources within the Project area. The Project area is considered to have low sensitivity for the presence of unidentified prehistoric or historic archaeological resources. Therefore, proposed ground-disturbing activities are not anticipated to adversely affect any known or unknown cultural resource sites within the Project area. Mitigation Measure CR-1 requires that in the unlikely event that previously unidentified cultural resources are uncovered during proposed ground-disturbing activities, all work shall cease within the vicinity of the find until a qualified archaeologist is retained to evaluate the significance of the find and determine the need for further study. Further, the proposed Project would be required to comply with California Health and Safety Code Section 7050.5, which outlines the protocol for unanticipated discovery of human remains. California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Fresno County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The Fresno County Coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify an MLD. The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. With implementation of Mitigation Measure CR-1 and required compliance with California Health and Safety Code Section 7050.5, the proposed Project would not cause a substantial adverse change in the significance of a Tribal Cultural Resource. Therefore, impacts would be *less than significant with mitigation.*

Mitigation Measures

Implement Mitigation Measure CR-1, included in Section V, *Cultural Resources.*

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. UTILITIES AND SERVICE SYSTEMS – 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 effect?			X	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			X	
c) Result in a determination by the waste water 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?			X	
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?			X	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?			X	

DISCUSSION

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?

Less Than Significant Impact. The proposed Project would require connection to existing utility infrastructure within the footprint of the proposed Project. The impacts of construction activities at the Project site have been analyzed throughout this Initial Study, and no new impacts would occur as a result of construction activities for utility extensions. The proposed Project would be served by existing energy and telecommunications services, and no new natural gas or telecommunications facilities would be required to support the proposed Project. Further, as discussed in *Impact Discussions XIX.b)* through *XIX.d)*, the proposed Project would not increase demand on existing water, wastewater, or solid waste infrastructure in a manner that would require the construction of new or expansion of existing City utility infrastructure elsewhere. Upon implementation of the identified mitigation measures, the proposed Project would not result in adverse environmental effects related to the relocation or installation of utility infrastructure. Therefore, impacts would be *less than significant*, and mitigation is not required.

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

Less Than Significant Impact. The City relies on groundwater from the North Kings Subbasin, surface water from the CVP through a contract with the U.S. Bureau of Reclamation, Kings River water through a contract with FID, and recycled water. Water supply in the City was entirely made up of groundwater prior to the commissioning of the City's first Surface Water Treatment Facility (SWTF) in 2004. Since 2004, the City has invested in expanding its surface water treatment capabilities and now has three SWTFs that provide approximately half of all potable water demands in the service area. Based on the City's *2020 Urban Water Management Plan*,[72] the City has a water supply of 329,030 acre-feet per year (AFY) for the year 2025 and a projected water supply of 357,330 AFY for the year 2045. The projected potable water demand for 2025 is 136,504 AFY and the projected potable water demand for 2045 is 167,947 AFY. Further, the projected non-potable water demand for 2025 is 62,700 AFY and the projected non-potable water demand for 2045 is 73,500 AFY.

The City's *2020 Urban Water Management Plan* identifies objectives for the City's future water supply and to balance groundwater operations through a host of strategies. The City has designed a comprehensive plan to accomplish this objective by increasing surface water supplies and surface water treatment facilities, intentional recharge, and conservation, in order to reduce groundwater pumping. The City

[72] City of Fresno. 2021a. *Final 2020 Urban Water Management Plan*. City of Fresno Department of Public Utilities. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/Fresno-2020-UWMP_Final_2021-07-21.pdf. Accessed April 2025.

continually monitors impacts of land use changes and development project proposals on water supply facilities by assigning fixed demand allocations to each parcel by land use as currently zoned or proposed to be rezoned. The City has indicated that groundwater wells, pump stations, recharge facilities, and water treatment and distribution systems shall be expanded incrementally to meet increased water demands. The City's General Plan requires the City to maintain a comprehensive conservation program to help reduce per capita water usage. This includes conservation programs such as drought-tolerant landscaping standards, irrigation control devices, leak detection and retrofits, water audits, public education, and implementation of U.S. Bureau of Reclamation BMPs for water conservation to maintain surface water entitlements.

The proposed Project would include the construction of a replacement well and associated infrastructure and site improvements to serve the City's existing and planned potable water needs. The new production well at the proposed Pump Station 290A would pump groundwater into the City's water distribution system, ensuring a safe and reliable source of drinking water for City residents. The purpose of the proposed Project is to replace an existing water well that produced 900 gpm but was taken out of service and destroyed due to sand production problems and non-compliance with modern sanitary well construction standards. Once operational and the flow rate is determined to be sufficient, the proposed well may also replace other wells in the area as they are taken out of service. The proposed replacement well is expected have an estimated production capacity of 1,500 gpm. The production objective of the replacement well would be an incremental increase in groundwater production necessary to provide groundwater to meet the City's existing and planned potable water needs. As described in Section X, *Hydrology and Water Quality*, the proposed Project would include the replacement of lost capacity from existing wells in Mixing Area 6, a high-risk area for well failure. While the proposed Project would result in a 600-gpm increase in groundwater pumping compared to the single well it directly replaces, it is intended to restore service levels in response to anticipated failures of nearby wells, not to increase overall extraction in the area. Groundwater production citywide also remains below planned thresholds, as only 49 of the 65 projected new wells have been drilled. The proposed Project is expected to connect to the existing water infrastructure and service.

The Project site is located outside of the Fresno City limits but within the City's SOI, and the proposed Project would be consistent with Medium-Low Residential uses as defined in the City's General Plan; therefore, the proposed Project would be consistent with the City's planned buildout scenario. Based on the proposed Project's alignment with City water supply planning, its role in replacing lost capacity, and adherence to established well siting guidelines, the proposed Project would not adversely affect sustainable groundwater management or contribute to localized overdraft. Therefore, impacts related to water supply would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. The City owns and operates two wastewater treatment facilities: the Fresno/Clovis Regional Wastewater Reclamation Facility (WRF) and the North Fresno WRF. The Fresno/Clovis Regional WRF currently has a capacity of 91.5 million gallons per day (MGD) and the North Fresno WRF has a capacity of 0.71 MGD. The proposed Project would include the construction of a replacement well and associated infrastructure and site improvements to serve the City's existing and planned potable water needs. The proposed Project is expected to connect to the existing wastewater infrastructure and service. The Project site is located outside of the Fresno City limit but within the City's SOI, and the proposed Project would be consistent with Medium-Low Residential uses as defined in the City's General Plan; therefore, the proposed Project would be consistent with the City's planned buildout scenario and would not result in unplanned growth that could result in a substantial increase in wastewater generation. The proposed Project would not generate wastewater in excess of existing wastewater treatment infrastructure. Therefore, impacts would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. Garbage disposed of in the City is taken to the Cedar Avenue Recycling and Transfer Station. Once trash has been off-loaded at the transfer station, it is sorted, and non-recyclable solid waste is loaded onto large trucks and taken to the American Avenue Landfill, located approximately 6 miles southwest of the City of Kerman.

The American Avenue Landfill (American Avenue Disposal Site 10-AA-0009) has a maximum permitted capacity of 32,700,000 CY and a remaining capacity of 29,358,535 CY, with an estimated closure date of August 31, 2031. The maximum permitted throughput is 2,200 tons per day.[73] Other landfills within Fresno County include the Clovis Landfill (City of Clovis Landfill 10-AA-0004) with a maximum remaining permitted capacity of 7,740,000 CY, a maximum permitted throughput of 2,000 tons per day, and an estimated closure date of 2047.[74]

Construction of the proposed Project may result in a temporary increase in solid waste, which would be disposed of in accordance with applicable State and local laws and regulations, such as CALGreen Sections 4.408 and 5.408, which require diversion of at least 75% of construction waste. The proposed Project would also be required to

[73] California Department of Resources Recycling and Recovery (CalRecycle). 2025a. SWIS Facility/Site Summary: American Avenue Disposal Site (10-AA-0009). Available at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/352. Accessed April 2025.

[74] California Department of Resources Recycling and Recovery (CalRecycle). 2025b. SWIS Facility/Site Summary: City of Clovis Landfill (10-AA-0004). Available at: https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/347. Accessed April 2025.

comply with the City's Construction & Demolition Approved Disposal Facilities guide[75] for proper disposal methods. Based on required compliance with CALGreen and City regulations, construction of the proposed Project would not generate solid waste in excess of local infrastructure capacity.

The proposed Project would include the construction of a replacement well and associated infrastructure and site improvements to serve the City's existing and planned potable water needs. The proposed Project would be limited to the operation of an existing well and associated maintenance and would generate a negligible amount of operational solid waste. Therefore, impacts would be *less than significant*, and mitigation is not required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Less Than Significant Impact. The proposed Project would result in a marginal increase in solid waste and would not result in a substantial increase in solid waste that could interfere with solid waste reduction statutes and regulations, including, but not limited to, policies identified in the *Fresno General Plan Public Utilities and Services Element*.[76] The proposed Project would be required to comply with CALGreen and City requirements to ensure proper diversion and disposal of short- and long-term solid waste. Therefore, the proposed Project would not conflict with federal, State, and local management and reduction statutes and regulations related to solid waste. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XX. WILDFIRE – 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?			X	

[75] City of Fresno. 2020b. Construction & Demolition Approved Disposal Facilities. Available at: https://www.fresno.gov/wp-content/uploads/2023/05/DPUSW191004-Construction-Demolition-Approved-Disposal-Facilities-PDF.pdf. Accessed April 2025.

[76] City of Fresno. 2014d. *Fresno General Plan, Chapter 6: Public Utilities and Services Element*. Adopted December 18. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/General-Plan-6-Public-Utilities-and-Services-7-19.pdf. Accessed April 2025.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?			X	
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?			X	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?			X	

DISCUSSION

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less Than Significant Impact. The Project site is located in an urban area and not within a VHFHSZ.[77] The City does not have an adopted Emergency Response and Evacuation Plan; however, the *Fresno County Multi-Jurisdictional Hazard Mitigation Plan*[78] contains several goals and policies regarding emergency evacuation, including Objective 1.3: *Improve community transportation corridors to allow for better evacuation routes for the public and better access for emergency responders*. The proposed Project would include the drilling of a new replacement well on a 0.29-acre portion of an existing City-owned parcel. The proposed Project would be limited to

[77] California Department of Forestry and Fire Protection (CAL FIRE). 2025. Fire Hazard Severity Zones in State Responsibility Area. Available at: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones. Accessed May 2025.

[78] Fresno County. 2018. *Fresno County Multi-Jurisdictional Hazard Mitigation Plan*. May. Available at: https://www.fresno.gov/wp-content/uploads/2023/03/FresnoCountyHMPFinal.pdf. Accessed April 2025.

activities on the existing parcel and would not result in the alteration of existing roadways that could interfere with emergency evacuation routes within the City or an adopted emergency response plan. Therefore, the proposed Project would be consistent with the *Fresno County Multi-Jurisdictional Hazard Mitigation Plan*. Therefore, impacts would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. The Project site is located in an urban area and not within a VHFHSZ. The proposed Project would not result in the development of new residences, buildings, or other occupiable structures that could exacerbate the risk of wildfire ignition or expose Project occupants to pollutant concentrations from a wildfire. The proposed Project would be limited to the construction of a replacement well and associated infrastructure, which poses a potential hazard associated wildfire ignition at the Project site. However, the proposed Project would be required to comply with applicable CFC requirements and City Construction Standards to avoid risk associated with wildfire ignition at the Project site. Based on the limited extent of proposed development and required compliance with the CFC requirements and City Construction Standards, the proposed Project would not expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, impacts would be *less than significant*, and mitigation is not required.

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?

Less Than Significant Impact. The Project site is located in an urban area and not within a VHFHSZ. The proposed Project would require the expansion of utility infrastructure to serve the proposed well. The proposed Project would be required to comply with the CFC to reduce risk associated with wildfire ignition at the Project site. Since the Project site is not located in or near a State Responsibility Area (SRA) or within lands classified as a VHFHSZ, the proposed Project would not exacerbate wildfire risk at the Project site. Therefore, impacts would be *less than significant*, and no mitigation is required.

d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Less Than Significant Impact. The Project site is located on a relatively flat area and is not located adjacent to any hills. In general, the potential for landsliding or slope failure in Fresno is very low and the Project site would not be susceptible to landslides. The Project site is also not located in a flood hazard zone and would not be susceptible to flooding because of post-fire drainage changes. As discussed above, the Project site is not located within a VHFHSZ. The proposed Project would not expose people

or structures to significant risks. Therefore, impacts would be *less than significant*, and mitigation is not required.

Mitigation Measures

Mitigation measures are not required.

ENVIRONMENTAL ISSUES	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XIX. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to 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, 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?		X		
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)?		X		
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X		

DISCUSSION

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 an endangered, rare, or threatened species, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant with Mitigation Incorporated. The proposed Project would include the construction of a new replacement well in a developed area in the City's SOI and does not include development in a rural or previously undeveloped area that could lead to a substantial reduction in habitat, plant and animal species, or significant resources of the major periods of California history or prehistory. Further, Mitigation Measure BIO-1, included in Section IV, *Biological Resources*, has been identified to reduce impacts to migratory birds and Mitigation Measure CR-1, included in Section V, *Cultural Resources*, has been identified to reduce impacts to cultural resources. Therefore, 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; substantially reduce the number or restrict the range of an endangered, rare, or threatened species; or eliminate important examples of the major periods of California history or prehistory. Therefore, impacts would be *less than significant with mitigation*.

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.)

Less Than Significant with Mitigation Incorporated. When Project impacts are considered along or in combination with other impacts, the Project-related impacts may be significant. Construction and operation of the proposed Project would contribute to cumulative impacts related to Aesthetics, Air Quality, Biological Resources, Cultural and Tribal Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, and Noise. Mitigation Measure AES-1, included in Section I, *Aesthetics*; Mitigation Measures AQ-1 through AQ-3, included in Section III, *Air Quality*; Mitigation Measure BIO-1, included in Section IV, *Biological Resources*; Mitigation Measure CR-1, included in Section V, *Cultural Resources*; Mitigation Measure GEO-1, included in Section VII, *Geology and Soils*; Mitigation Measure GHG-1, included in Section VIII, *Greenhouse Gas Emissions*; and Mitigation Measures N-1 through N-3, included in Section XIII, *Noise* have been incorporated into the proposed Project to reduce Project-specific impacts to a less-than-significant level. Implementation of these measures would ensure that the impacts of the proposed Project would be below established thresholds of significance and that Project-specific impacts would be reduced to less than significant. Further, as discussed in Section X, *Hydrology and Water Quality*, and XIX, *Utilities and Service*

Systems, the proposed Project would contribute to the planned production of new wells to replace lost capacity from existing wells in Mixing Area 6, a high-risk area for well failure. As a result, Project-specific impacts would not combine with the impacts of other cumulative projects to result in a cumulatively considerable impact on the environment as a result of Project development. Therefore, cumulative impacts would be *less than significant with mitigation*.

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

Less Than Significant with Mitigation Incorporated. The proposed Project would result in air and GHG emissions and short-term noise during construction activities. Mitigation Measures AQ-1 through AQ-3, included in Section III, *Air Quality*, Mitigation Measure GHG-1, included in Section VIII, *Greenhouse Gas Emissions*; and Mitigation Measures N-1 through N-3, included in Section XIII, *Noise*, have been identified that would reduce these Project-specific impacts to a less-than-significant level, therefore, the Project would not result in substantial, adverse environmental effects to human beings, either directly or indirectly.

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APPENDIX A

CalEEMod Results

Pump Station 290A Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Pump Station 290A
Construction Start Date	4/1/2026
Operational Year	2031
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	22.6
Location	2792 W San Madele Ave, Fresno, CA 93711, USA
County	Fresno
City	Unincorporated
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2492
EDFZ	5
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	0.29	User Defined Unit	0.29	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.36	1.96	17.9	26.9	0.05	0.55	13.7	14.3	0.51	1.45	1.96	—	5,694	5,694	0.20	0.25	3.55	5,773
Mit.	2.36	1.96	17.9	26.9	0.05	0.55	3.82	4.37	0.51	0.46	0.97	—	5,694	5,694	0.20	0.25	3.55	5,773
% Reduced	—	—	—	—	—	—	72%	69%	—	68%	50%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.05	1.70	16.9	23.7	0.05	0.55	13.7	14.3	0.51	1.45	1.96	—	5,574	5,574	0.20	0.25	0.09	5,651
Mit.	2.05	1.70	16.9	23.7	0.05	0.55	3.82	4.37	0.51	0.46	0.97	—	5,574	5,574	0.20	0.25	0.09	5,651
% Reduced	—	—	—	—	—	—	72%	69%	—	68%	50%	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.75	0.63	5.85	8.47	0.02	0.17	4.63	4.81	0.16	0.49	0.65	—	2,021	2,021	0.07	0.09	0.46	2,048
Mit.	0.75	0.63	5.85	8.47	0.02	0.17	1.30	1.47	0.16	0.16	0.32	—	2,021	2,021	0.07	0.09	0.46	2,048

% Reduced	—	—	—	—	—	—	72%	69%	—	68%	51%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.14	0.11	1.07	1.55	< 0.005	0.03	0.85	0.88	0.03	0.09	0.12	—	335	335	0.01	0.01	0.08	339
Mit.	0.14	0.11	1.07	1.55	< 0.005	0.03	0.24	0.27	0.03	0.03	0.06	—	335	335	0.01	0.01	0.08	339
% Reduced	—	—	—	—	—	—	72%	69%	—	68%	51%	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.07	1.72	16.7	23.8	0.05	0.55	13.7	14.3	0.51	1.45	1.96	—	5,358	5,358	0.19	0.25	3.55	5,439
2028	2.36	1.96	17.9	26.9	0.05	0.52	13.7	14.2	0.48	1.45	1.93	—	5,694	5,694	0.20	0.24	2.98	5,773
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.05	1.70	16.9	23.7	0.05	0.55	13.7	14.3	0.51	1.45	1.96	—	5,342	5,342	0.19	0.25	0.09	5,420
2028	1.85	1.54	14.7	20.5	0.05	0.45	13.7	14.2	0.42	1.45	1.87	—	5,574	5,574	0.20	0.24	0.08	5,651
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.25	0.21	2.07	2.92	0.01	0.07	1.59	1.66	0.06	0.17	0.23	—	659	659	0.02	0.03	0.19	669
2028	0.75	0.63	5.85	8.47	0.02	0.17	4.63	4.81	0.16	0.49	0.65	—	2,021	2,021	0.07	0.09	0.46	2,048
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.05	0.04	0.38	0.53	< 0.005	0.01	0.29	0.30	0.01	0.03	0.04	—	109	109	< 0.005	0.01	0.03	111
2028	0.14	0.11	1.07	1.55	< 0.005	0.03	0.85	0.88	0.03	0.09	0.12	—	335	335	0.01	0.01	0.08	339

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.07	1.72	16.7	23.8	0.05	0.55	3.82	4.37	0.51	0.46	0.97	—	5,358	5,358	0.19	0.25	3.55	5,439
2028	2.36	1.96	17.9	26.9	0.05	0.52	3.82	4.34	0.48	0.46	0.94	—	5,694	5,694	0.20	0.24	2.98	5,773
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	2.05	1.70	16.9	23.7	0.05	0.55	3.82	4.37	0.51	0.46	0.97	—	5,342	5,342	0.19	0.25	0.09	5,420
2028	1.85	1.54	14.7	20.5	0.05	0.45	3.82	4.27	0.42	0.46	0.88	—	5,574	5,574	0.20	0.24	0.08	5,651
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.25	0.21	2.07	2.92	0.01	0.07	0.45	0.51	0.06	0.05	0.12	—	659	659	0.02	0.03	0.19	669
2028	0.75	0.63	5.85	8.47	0.02	0.17	1.30	1.47	0.16	0.16	0.32	—	2,021	2,021	0.07	0.09	0.46	2,048
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.05	0.04	0.38	0.53	< 0.005	0.01	0.08	0.09	0.01	0.01	0.02	—	109	109	< 0.005	0.01	0.03	111
2028	0.14	0.11	1.07	1.55	< 0.005	0.03	0.24	0.27	0.03	0.03	0.06	—	335	335	0.01	0.01	0.08	339

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	404	404	0.02	< 0.005	0.02	405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	403	403	0.02	< 0.005	< 0.005	404
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.47	0.42	1.18	1.08	< 0.005	0.06	< 0.005	0.06	0.06	< 0.005	0.06	0.00	217	217	0.01	< 0.005	< 0.005	218
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.08	0.22	0.20	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	0.00	36.0	36.0	< 0.005	< 0.005	< 0.005	36.1

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	404	404	0.02	< 0.005	0.02	405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationa	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	403	403	0.02	< 0.005	< 0.005	404
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.20	1.20	< 0.005	< 0.005	< 0.005	1.22
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.46	0.42	1.18	1.08	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	0.00	216	216	0.01	< 0.005	0.00	217
Total	0.47	0.42	1.18	1.08	< 0.005	0.06	< 0.005	0.06	0.06	< 0.005	0.06	0.00	217	217	0.01	< 0.005	< 0.005	218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9
Total	0.08	0.08	0.22	0.20	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	0.00	36.0	36.0	< 0.005	< 0.005	< 0.005	36.1

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	404	404	0.02	< 0.005	0.02	405
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Area	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.78	2.16	2.00	< 0.005	0.11	0.01	0.12	0.11	< 0.005	0.12	0.00	403	403	0.02	< 0.005	< 0.005	404
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.20	1.20	< 0.005	< 0.005	< 0.005	1.22
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.46	0.42	1.18	1.08	< 0.005	0.06	0.00	0.06	0.06	0.00	0.06	0.00	216	216	0.01	< 0.005	0.00	217
Total	0.47	0.42	1.18	1.08	< 0.005	0.06	< 0.005	0.06	0.06	< 0.005	0.06	0.00	217	217	0.01	< 0.005	< 0.005	218
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Area	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9
Total	0.08	0.08	0.22	0.20	< 0.005	0.01	< 0.005	0.01	0.01	< 0.005	0.01	0.00	36.0	36.0	< 0.005	< 0.005	< 0.005	36.1

3. Construction Emissions Details

3.1. Phase 1: Well drilling, well development, and aquifer testing (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	15.0	22.5	0.04	0.53	—	0.53	0.48	—	0.48	—	3,899	3,899	0.16	0.03	—	3,912
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.01	0.01	0.17	0.11	< 0.005	< 0.005	13.2	13.2	< 0.005	1.32	1.32	—	45.8	45.8	< 0.005	0.01	0.07	48.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	15.0	22.5	0.04	0.53	—	0.53	0.48	—	0.48	—	3,899	3,899	0.16	0.03	—	3,912

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.01	0.01	0.18	0.11	< 0.005	< 0.005	13.2	13.2	< 0.005	1.32	1.32	—	46.2	46.2	< 0.005	0.01	< 0.005	48.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.85	2.77	< 0.005	0.06	—	0.06	0.06	—	0.06	—	481	481	0.02	< 0.005	—	482
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	1.53	1.53	< 0.005	0.15	0.15	—	5.67	5.67	< 0.005	< 0.005	< 0.005	5.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.6	79.6	< 0.005	< 0.005	—	79.9
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.28	0.28	< 0.005	0.03	0.03	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.99
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.05	0.89	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	154	154	< 0.005	0.01	0.54	157
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.8	25.8	< 0.005	< 0.005	0.06	27.0
Hauling	0.05	0.02	1.46	0.36	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,233	1,233	0.03	0.20	2.88	1,295

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.72	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	137	137	0.01	0.01	0.01	139
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.9	25.9	< 0.005	< 0.005	< 0.005	27.0
Hauling	0.05	0.02	1.56	0.37	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,234	1,234	0.03	0.20	0.07	1,293
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.5	17.5	< 0.005	< 0.005	0.03	17.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.19	3.19	< 0.005	< 0.005	< 0.005	3.33
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	152	152	< 0.005	0.02	0.15	159
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.90	2.90	< 0.005	< 0.005	< 0.005	2.95
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.55
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.03	26.4

3.2. Phase 1: Well drilling, well development, and aquifer testing (2026) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	15.0	22.5	0.04	0.53	—	0.53	0.48	—	0.48	—	3,899	3,899	0.16	0.03	—	3,912
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.01	0.01	0.17	0.11	< 0.005	< 0.005	3.34	3.34	< 0.005	0.33	0.33	—	45.8	45.8	< 0.005	0.01	0.07	48.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.89	1.58	15.0	22.5	0.04	0.53	—	0.53	0.48	—	0.48	—	3,899	3,899	0.16	0.03	—	3,912
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.01	0.01	0.18	0.11	< 0.005	< 0.005	3.34	3.34	< 0.005	0.33	0.33	—	46.2	46.2	< 0.005	0.01	< 0.005	48.5
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	0.20	1.85	2.77	< 0.005	0.06	—	0.06	0.06	—	0.06	—	481	481	0.02	< 0.005	—	482
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	0.39	0.39	< 0.005	0.04	0.04	—	5.67	5.67	< 0.005	< 0.005	< 0.005	5.95
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.51	< 0.005	0.01	—	0.01	0.01	—	0.01	—	79.6	79.6	< 0.005	< 0.005	—	79.9
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.99

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.05	0.89	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	154	154	< 0.005	0.01	0.54	157
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.8	25.8	< 0.005	< 0.005	0.06	27.0
Hauling	0.05	0.02	1.46	0.36	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,233	1,233	0.03	0.20	2.88	1,295
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	0.07	0.72	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	137	137	0.01	0.01	0.01	139
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.9	25.9	< 0.005	< 0.005	< 0.005	27.0
Hauling	0.05	0.02	1.56	0.37	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,234	1,234	0.03	0.20	0.07	1,293
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	17.5	17.5	< 0.005	< 0.005	0.03	17.8
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.19	3.19	< 0.005	< 0.005	< 0.005	3.33
Hauling	0.01	< 0.005	0.19	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	152	152	< 0.005	0.02	0.15	159
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.90	2.90	< 0.005	< 0.005	< 0.005	2.95
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.53	0.53	< 0.005	< 0.005	< 0.005	0.55
Hauling	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	25.2	25.2	< 0.005	< 0.005	0.03	26.4

3.3. Phase 2: Site Improvements (2028) - Unmitigated

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

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

Off-Road	1.64	1.37	12.2	20.3	0.03	0.34	—	0.34	0.31	—	0.31	—	3,481	3,481	0.14	0.03	—	3,493
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.01	0.01	0.16	0.10	< 0.005	< 0.005	13.2	13.2	< 0.005	1.32	1.32	—	43.8	43.8	< 0.005	0.01	0.06	46.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.18	3.62	0.01	0.06	—	0.06	0.06	—	0.06	—	620	620	0.03	0.01	—	622
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.21	2.21	< 0.005	0.22	0.22	—	7.83	7.83	< 0.005	< 0.005	< 0.005	8.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	< 0.005	< 0.005	—	103
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.40	0.40	< 0.005	0.04	0.04	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.04	0.77	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	148	148	< 0.005	0.01	0.44	151
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.6	24.6	< 0.005	< 0.005	0.05	25.8
Hauling	0.05	0.02	1.38	0.35	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,173	1,173	0.02	0.19	2.44	1,232
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.3	24.3	< 0.005	< 0.005	0.03	24.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.60
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	209	209	< 0.005	0.03	0.19	219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.6	34.6	< 0.005	0.01	0.03	36.3

3.4. Phase 2: Site Improvements (2028) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.64	1.37	12.2	20.3	0.03	0.34	—	0.34	0.31	—	0.31	—	3,481	3,481	0.14	0.03	—	3,493

Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.01	0.01	0.16	0.10	< 0.005	< 0.005	3.34	3.34	< 0.005	0.33	0.33	—	43.8	43.8	< 0.005	0.01	0.06	46.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.29	0.24	2.18	3.62	0.01	0.06	—	0.06	0.06	—	0.06	—	620	620	0.03	0.01	—	622
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.56	0.56	< 0.005	0.06	0.06	—	7.83	7.83	< 0.005	< 0.005	< 0.005	8.21
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.04	0.40	0.66	< 0.005	0.01	—	0.01	0.01	—	0.01	—	103	103	< 0.005	< 0.005	—	103
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	1.30	1.30	< 0.005	< 0.005	< 0.005	1.36
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.04	0.77	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	148	148	< 0.005	0.01	0.44	151

Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.6	24.6	< 0.005	< 0.005	0.05	25.8
Hauling	0.05	0.02	1.38	0.35	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,173	1,173	0.02	0.19	2.44	1,232
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.3	24.3	< 0.005	< 0.005	0.03	24.7
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.39	4.39	< 0.005	< 0.005	< 0.005	4.60
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	209	209	< 0.005	0.03	0.19	219
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	0.01	4.08
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.73	0.73	< 0.005	< 0.005	< 0.005	0.76
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	34.6	34.6	< 0.005	0.01	0.03	36.3

3.5. Phase 3: Wellhead Treatment Facilities and Emergency Generator (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.71	1.43	13.0	19.4	0.04	0.43	—	0.43	0.39	—	0.39	—	4,200	4,200	0.17	0.03	—	4,214
Onsite truck	0.01	0.01	0.16	0.10	< 0.005	< 0.005	13.2	13.2	< 0.005	1.32	1.32	—	43.8	43.8	< 0.005	0.01	0.06	46.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	1.71	1.43	13.0	19.4	0.04	0.43	—	0.43	0.39	—	0.39	—	4,200	4,200	0.17	0.03	—	4,214
Onsite truck	0.01	0.01	0.17	0.11	< 0.005	< 0.005	13.2	13.2	< 0.005	1.32	1.32	—	44.2	44.2	< 0.005	0.01	< 0.005	46.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.31	0.26	2.35	3.51	0.01	0.08	—	0.08	0.07	—	0.07	—	759	759	0.03	0.01	—	762
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	2.25	2.25	< 0.005	0.22	0.22	—	7.95	7.95	< 0.005	< 0.005	< 0.005	8.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.64	< 0.005	0.01	—	0.01	0.01	—	0.01	—	126	126	0.01	< 0.005	—	126
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.41	0.41	< 0.005	0.04	0.04	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.04	0.77	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	148	148	< 0.005	0.01	0.44	151
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.6	24.6	< 0.005	< 0.005	0.05	25.8
Hauling	0.05	0.02	1.38	0.35	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,173	1,173	0.02	0.19	2.44	1,232
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.62	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	134
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.7	24.7	< 0.005	< 0.005	< 0.005	25.8
Hauling	0.05	0.02	1.48	0.36	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,174	1,174	0.02	0.19	0.06	1,231
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.7	24.7	< 0.005	< 0.005	0.03	25.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	< 0.005	4.67
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	212	212	< 0.005	0.03	0.19	223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.08	4.08	< 0.005	< 0.005	0.01	4.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.77
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.1	35.1	< 0.005	0.01	0.03	36.9

3.6. Phase 3: Wellhead Treatment Facilities and Emergency Generator (2028) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.71	1.43	13.0	19.4	0.04	0.43	—	0.43	0.39	—	0.39	—	4,200	4,200	0.17	0.03	—	4,214
Onsite truck	0.01	0.01	0.16	0.10	< 0.005	< 0.005	3.34	3.34	< 0.005	0.33	0.33	—	43.8	43.8	< 0.005	0.01	0.06	46.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.71	1.43	13.0	19.4	0.04	0.43	—	0.43	0.39	—	0.39	—	4,200	4,200	0.17	0.03	—	4,214
Onsite truck	0.01	0.01	0.17	0.11	< 0.005	< 0.005	3.34	3.34	< 0.005	0.33	0.33	—	44.2	44.2	< 0.005	0.01	< 0.005	46.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.31	0.26	2.35	3.51	0.01	0.08	—	0.08	0.07	—	0.07	—	759	759	0.03	0.01	—	762
Onsite truck	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	0.57	0.57	< 0.005	0.06	0.06	—	7.95	7.95	< 0.005	< 0.005	< 0.005	8.34
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.05	0.43	0.64	< 0.005	0.01	—	0.01	0.01	—	0.01	—	126	126	0.01	< 0.005	—	126
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	1.32	1.32	< 0.005	< 0.005	< 0.005	1.38
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.04	0.77	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	148	148	< 0.005	0.01	0.44	151
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.6	24.6	< 0.005	< 0.005	0.05	25.8
Hauling	0.05	0.02	1.38	0.35	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,173	1,173	0.02	0.19	2.44	1,232
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.05	0.62	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	134
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	24.7	24.7	< 0.005	< 0.005	< 0.005	25.8
Hauling	0.05	0.02	1.48	0.36	0.01	0.02	0.33	0.36	0.02	0.09	0.12	—	1,174	1,174	0.02	0.19	0.06	1,231
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.01	0.11	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	24.7	24.7	< 0.005	< 0.005	0.03	25.0
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.46	4.46	< 0.005	< 0.005	< 0.005	4.67
Hauling	0.01	< 0.005	0.26	0.06	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	212	212	< 0.005	0.03	0.19	223
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.08	4.08	< 0.005	< 0.005	0.01	4.15
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.74	0.74	< 0.005	< 0.005	< 0.005	0.77

Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.1	35.1	< 0.005	0.01	0.03	36.9

3.7. Phase 2: Site Improvements Paving (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.56	0.47	4.05	5.31	0.01	0.15	—	0.15	0.14	—	0.14	—	823	823	0.03	0.01	—	826
Paving	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	147	147	0.01	< 0.005	—	147
Paving	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	24.3	24.3	< 0.005	< 0.005	—	24.3
Paving	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Phase 2: Site Improvements Paving (2028) - Mitigated

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

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

Off-Road Equipment	0.56	0.47	4.05	5.31	0.01	0.15	—	0.15	0.14	—	0.14	—	823	823	0.03	0.01	—	826
Paving	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.08	0.72	0.95	< 0.005	0.03	—	0.03	0.03	—	0.03	—	147	147	0.01	< 0.005	—	147
Paving	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.13	0.17	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	24.3	24.3	< 0.005	< 0.005	—	24.3
Paving	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Total	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Total	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Total	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.94	8.94	< 0.005	< 0.005	0.02	9.10
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Total	0.01	0.01	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	8.21	8.21	< 0.005	< 0.005	< 0.005	8.36
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20
Total	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.20	0.20	< 0.005	< 0.005	< 0.005	0.20

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.2. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coating	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.00	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.2. Mitigated

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

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

User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

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

4.6.2. Mitigated

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

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

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.7.2. Mitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9
Total	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9

4.8.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396
Total	0.85	0.77	2.16	1.97	< 0.005	0.11	0.00	0.11	0.11	0.00	0.11	0.00	395	395	0.02	< 0.005	0.00	396

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9
Total	0.08	0.08	0.22	0.20	< 0.005	0.01	0.00	0.01	0.01	0.00	0.01	0.00	35.8	35.8	< 0.005	< 0.005	0.00	35.9

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.9.2. Mitigated

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

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

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

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

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

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

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Phase 1: Well drilling, well development, and aquifer testing	Site Preparation	3/1/2026	5/1/2026	5.00	45.0	—
Phase 2: Site Improvements	Grading	5/1/2028	7/30/2028	5.00	65.0	—
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Building Construction	8/1/2028	10/31/2028	5.00	66.0	—

Phase 2: Site Improvements Paving	Paving	5/1/2028	7/30/2028	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
Phase 1: Well drilling, well development, and aquifer testing	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 1: Well drilling, well development, and aquifer testing	Air Compressors	Diesel	Average	1.00	12.0	37.0	0.48
Phase 1: Well drilling, well development, and aquifer testing	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37
Phase 1: Well drilling, well development, and aquifer testing	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 1: Well drilling, well development, and aquifer testing	Generator Sets	Diesel	Average	1.00	12.0	14.0	0.74
Phase 1: Well drilling, well development, and aquifer testing	Other Construction Equipment	Diesel	Average	1.00	12.0	82.0	0.42
Phase 1: Well drilling, well development, and aquifer testing	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Phase 1: Well drilling, well development, and aquifer testing	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Phase 2: Site Improvements	Tractors/Loaders/Backhoes	Diesel	Average	2.00	12.0	84.0	0.37
Phase 2: Site Improvements	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37

Phase 2: Site Improvements	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 2: Site Improvements	Rollers	Diesel	Average	1.00	12.0	36.0	0.38
Phase 2: Site Improvements	Air Compressors	Diesel	Average	1.00	12.0	37.0	0.48
Phase 2: Site Improvements	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 2: Site Improvements	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Phase 2: Site Improvements	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Cranes	Diesel	Average	1.00	12.0	367	0.29
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Tractors/Loaders/Backhoes	Diesel	Average	2.00	12.0	84.0	0.37
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Phase 2: Site Improvements Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37

Phase 2: Site Improvements Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Phase 2: Site Improvements Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Phase 2: Site Improvements Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Phase 1: Well drilling, well development, and aquifer testing	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 1: Well drilling, well development, and aquifer testing	Air Compressors	Diesel	Average	1.00	12.0	37.0	0.48
Phase 1: Well drilling, well development, and aquifer testing	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37
Phase 1: Well drilling, well development, and aquifer testing	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 1: Well drilling, well development, and aquifer testing	Generator Sets	Diesel	Average	1.00	12.0	14.0	0.74
Phase 1: Well drilling, well development, and aquifer testing	Other Construction Equipment	Diesel	Average	1.00	12.0	82.0	0.42
Phase 1: Well drilling, well development, and aquifer testing	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Phase 1: Well drilling, well development, and aquifer testing	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Phase 2: Site Improvements	Tractors/Loaders/Backhoes	Diesel	Average	2.00	12.0	84.0	0.37

Phase 2: Site Improvements	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37
Phase 2: Site Improvements	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 2: Site Improvements	Rollers	Diesel	Average	1.00	12.0	36.0	0.38
Phase 2: Site Improvements	Air Compressors	Diesel	Average	1.00	12.0	37.0	0.48
Phase 2: Site Improvements	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 2: Site Improvements	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Phase 2: Site Improvements	Bore/Drill Rigs	Diesel	Average	1.00	6.00	83.0	0.50
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Cranes	Diesel	Average	1.00	12.0	367	0.29
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Forklifts	Diesel	Average	1.00	12.0	82.0	0.20
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Tractors/Loaders/Backhoes	Diesel	Average	2.00	12.0	84.0	0.37
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Skid Steer Loaders	Diesel	Average	2.00	12.0	71.0	0.37
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Excavators	Diesel	Average	1.00	12.0	36.0	0.38
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38

Phase 2: Site Improvements Paving	Tractors/Loaders/Back	Diesel	Average	1.00	7.00	84.0	0.37
Phase 2: Site Improvements Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
Phase 2: Site Improvements Paving	Pavers	Diesel	Average	1.00	7.00	81.0	0.42
Phase 2: Site Improvements Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Phase 1: Well drilling, well development, and aquifer testing	—	—	—	—
Phase 1: Well drilling, well development, and aquifer testing	Worker	26.0	7.70	LDA,LDT1,LDT2
Phase 1: Well drilling, well development, and aquifer testing	Vendor	2.00	4.00	HHDT,MHDT
Phase 1: Well drilling, well development, and aquifer testing	Hauling	18.0	20.0	HHDT
Phase 1: Well drilling, well development, and aquifer testing	Onsite truck	9.00	1.00	HHDT
Phase 2: Site Improvements	—	—	—	—
Phase 2: Site Improvements	Worker	26.0	7.70	LDA,LDT1,LDT2
Phase 2: Site Improvements	Vendor	2.00	4.00	HHDT,MHDT
Phase 2: Site Improvements	Hauling	18.0	20.0	HHDT
Phase 2: Site Improvements	Onsite truck	9.00	1.00	HHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	—	—	—	—
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Worker	26.0	7.70	LDA,LDT1,LDT2

Phase 3: Wellhead Treatment Facilities and Emergency Generator	Vendor	2.00	4.00	HHDT,MHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Hauling	18.0	20.0	HHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Onsite truck	9.00	1.00	HHDT
Phase 2: Site Improvements Paving	—	—	—	—
Phase 2: Site Improvements Paving	Worker	0.00	7.70	LDA,LDT1,LDT2
Phase 2: Site Improvements Paving	Vendor	0.00	4.00	HHDT,MHDT
Phase 2: Site Improvements Paving	Hauling	0.00	20.0	HHDT
Phase 2: Site Improvements Paving	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Phase 1: Well drilling, well development, and aquifer testing	—	—	—	—
Phase 1: Well drilling, well development, and aquifer testing	Worker	26.0	7.70	LDA,LDT1,LDT2
Phase 1: Well drilling, well development, and aquifer testing	Vendor	2.00	4.00	HHDT,MHDT
Phase 1: Well drilling, well development, and aquifer testing	Hauling	18.0	20.0	HHDT
Phase 1: Well drilling, well development, and aquifer testing	Onsite truck	9.00	1.00	HHDT
Phase 2: Site Improvements	—	—	—	—
Phase 2: Site Improvements	Worker	26.0	7.70	LDA,LDT1,LDT2
Phase 2: Site Improvements	Vendor	2.00	4.00	HHDT,MHDT
Phase 2: Site Improvements	Hauling	18.0	20.0	HHDT
Phase 2: Site Improvements	Onsite truck	9.00	1.00	HHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	—	—	—	—

Phase 3: Wellhead Treatment Facilities and Emergency Generator	Worker	26.0	7.70	LDA,LDT1,LDT2
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Vendor	2.00	4.00	HHDT,MHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Hauling	18.0	20.0	HHDT
Phase 3: Wellhead Treatment Facilities and Emergency Generator	Onsite truck	9.00	1.00	HHDT
Phase 2: Site Improvements Paving	—	—	—	—
Phase 2: Site Improvements Paving	Worker	0.00	7.70	LDA,LDT1,LDT2
Phase 2: Site Improvements Paving	Vendor	0.00	4.00	HHDT,MHDT
Phase 2: Site Improvements Paving	Hauling	0.00	20.0	HHDT
Phase 2: Site Improvements Paving	Onsite truck	0.00	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)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Phase 1: Well drilling, well development, and aquifer testing	0.00	173	0.60	0.00	—
Phase 2: Site Improvements	0.00	173	0.60	0.00	—

Phase 2: Site Improvements Paving	0.00	0.00	0.00	0.00	0.03

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
User Defined Industrial	0.03	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	204	0.03	< 0.005
2028	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
User Defined Industrial	0.00	2.03	0.00	106	0.00	11.1	0.00	578

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	0.00	2.03	0.00	106	0.00	11.1	0.00	578

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	0.00	0.00	—

5.10.3. Landscape Equipment

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

5.10.4. Landscape Equipment - Mitigated

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	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)
User Defined Industrial	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)
User Defined Industrial	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.15.2. Mitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	200	470	0.73

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

5.18.2.2. Mitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	30.9	annual days of extreme heat
Extreme Precipitation	1.35	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	0	0	0	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	1	1	1	2
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	82.5

AQ-PM	95.8
AQ-DPM	37.1
Drinking Water	84.4
Lead Risk Housing	22.9
Pesticides	0.00
Toxic Releases	68.8
Traffic	34.0
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	3.30
Haz Waste Facilities/Generators	28.3
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	62.4
Cardio-vascular	28.8
Low Birth Weights	51.0
Socioeconomic Factor Indicators	—
Education	25.9
Housing	26.2
Linguistic	37.0
Poverty	33.8
Unemployment	56.2

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—

Above Poverty	71.37174387
Employed	60.23354292
Median HI	75.29834467
Education	—
Bachelor's or higher	78.36519954
High school enrollment	26.06185038
Preschool enrollment	53.56088798
Transportation	—
Auto Access	66.18760426
Active commuting	13.26831772
Social	—
2-parent households	60.18221481
Voting	86.62902605
Neighborhood	—
Alcohol availability	68.70268189
Park access	28.87206467
Retail density	46.28512768
Supermarket access	60.25920698
Tree canopy	84.67855768
Housing	—
Homeownership	92.41627101
Housing habitability	88.05338124
Low-inc homeowner severe housing cost burden	43.32092904
Low-inc renter severe housing cost burden	79.71256256
Uncrowded housing	89.4649044
Health Outcomes	—
Insured adults	86.30822533
Arthritis	1.1

Asthma ER Admissions	48.2
High Blood Pressure	1.4
Cancer (excluding skin)	0.8
Asthma	69.3
Coronary Heart Disease	1.8
Chronic Obstructive Pulmonary Disease	20.5
Diagnosed Diabetes	28.6
Life Expectancy at Birth	61.4
Cognitively Disabled	28.0
Physically Disabled	21.0
Heart Attack ER Admissions	62.7
Mental Health Not Good	92.6
Chronic Kidney Disease	3.6
Obesity	74.1
Pedestrian Injuries	53.9
Physical Health Not Good	59.3
Stroke	8.8
Health Risk Behaviors	—
Binge Drinking	95.3
Current Smoker	97.6
No Leisure Time for Physical Activity	64.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	83.0
Elderly	1.7
English Speaking	87.3
Foreign-born	6.6

Outdoor Workers	71.5
Climate Change Adaptive Capacity	—
Impervious Surface Cover	64.1
Traffic Density	25.3
Traffic Access	0.0
Other Indices	—
Hardship	24.0
Other Decision Support	—
2016 Voting	75.7

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	37.0
Healthy Places Index Score for Project Location (b)	72.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Anticipated Schedule
Land Use	The City of Fresno (City) is proposing the Pump Station 290A Project (Project) to construct a new water well on a 0.29-acre portion of a developed residential parcel located at 2792 West San Madele Avenue in unincorporated Fresno County (Project site).
Construction: Off-Road Equipment	anticipated equipment
Construction: Dust From Material Movement	Anticipated export based on approximately 0.29 acre of ground disturbance, including approximately 135 cubic yards (CY) of cut and 38 CY of fill
Construction: Trips and VMT	Anticipated worker, vendor and haul trucks trips.
Construction: Paving	The project would result in approximately 1, 251 square feet of new paved area.
Operations: Vehicle Data	Proposed maintenance activities would include an average of one maintenance trip per week and may include additional maintenance trips on an as needed basis.
Operations: Consumer Products	None

APPENDIX B

USFWS IPaC, CDFW CNDDB, and CNPS Query Results

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Fresno County, California

Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Fresno Kangaroo Rat Dipodomys nitratoides exilis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5150	Endangered
San Joaquin Kit Fox Vulpes macrotis mutica Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2873	Endangered

Reptiles

NAME	STATUS
Northwestern Pond Turtle Actinemys marmorata Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

Amphibians

NAME	STATUS
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened
Western Spadefoot Spea hammondii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5425	Proposed Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Fleshy Owl's-clover Castilleja campestris ssp. succulenta Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8095	Threatened
San Joaquin Valley Orcutt Grass Orcuttia inaequalis Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5506	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

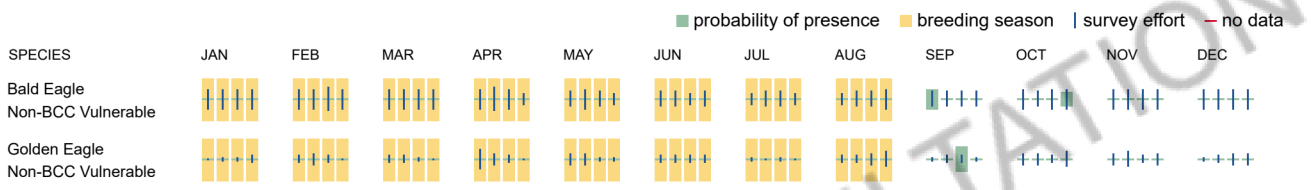
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort line or no data line (red horizontal) means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

Interpreting the Probability of Presence Graphs

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Belding's Savannah Sparrow Passerculus sandwichensis beldingi This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8	Breeds Apr 1 to Aug 15
Bullock's Oriole Icterus bullockii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
California Gull Larus californicus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31

Clark's Grebe Aechmophorus clarkii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch Spinus lawrencei This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Northern Harrier Circus hudsonius This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8350	Breeds Apr 1 to Sep 15
Nuttall's Woodpecker Dryobates nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Santa Barbara Song Sparrow Melospiza melodia graminea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5513	Breeds Mar 1 to Sep 5
Western Screech-owl Megascops kennicottii cardonensis This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jun 30

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as "Vulnerable". See the FAQ "What are the levels of concern for migratory birds?" for more information on the levels of concern covered in the IPaC migratory bird species list.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that

area, an eagle (Bald and Golden Eagle Protection Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Bald and Golden Eagle Protection Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Proper interpretation and use of your migratory bird report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list does not represent all birds present in your project area. It is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. A taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

How is the probability of presence score calculated? The calculation is done in three steps:
The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season ()
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort ()
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data ()
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Fresno North (3611977) OR Fresno South (3611967) OR Lanes Bridge (3611987) OR Malaga (3611966) OR Clovis (3611976) OR Friant (3611986) OR Gregg (3611988) OR Herndon (3611978) OR Kearney Park (3611968))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American bumble bee *Bombus pensylvanicus*	IIHYM24260	None	None	G3G4	S2	
Antioch efferian robberfly *Efferia antiochi*	IIDIP07010	None	None	G1G2	S1S2	
black-crowned night heron *Nycticorax nycticorax*	ABNGA11010	None	None	G5	S4	
burrowing owl *Athene cunicularia*	ABNSB10010	None	Candidate Endangered	G4	S2	SSC
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
California horned lark *Eremophila alpestris actia*	ABPAT02011	None	None	G5T4Q	S4	WL
California jewelflower *Caulanthus californicus*	PDBRA31010	Endangered	Endangered	G1	S1	1B.1
California linderiella *Linderiella occidentalis*	ICBRA06010	None	None	G2G3	S2S3	
California satintail *Imperata brevifolia*	PMPOA3D020	None	None	G3	S3	2B.1
California tiger salamander - central California DPS *Ambystoma californiense pop. 1*	AAAAA01181	Threatened	Threatened	G3T3	S3	WL
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G4	S4	SSC
Crotch's bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G2	S2	
double-crested cormorant *Nannopterum auritum*	ABNFD01020	None	None	G5	S4	WL
dwarf downingia *Downingia pusilla*	PDCAM060C0	None	None	GU	S2	2B.2
Fresno kangaroo rat *Dipodomys nitratoides exilis*	AMAFD03151	Endangered	Endangered	G2TH	SH	
great egret *Ardea alba*	ABNGA04040	None	None	G5	S4	
Great Valley Mixed Riparian Forest *Great Valley Mixed Riparian Forest*	CTT61420CA	None	None	G2	S2.2	
Greene's tuctoria *Tuctoria greenei*	PMPOA6N010	Endangered	Rare	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
hairy Orcutt grass *Orcuttia pilosa*	PMPOA4G040	Endangered	Endangered	G1	S1	1B.1
hardhead *Mylopharodon conocephalus*	AFCJB25010	None	None	G3	S3	SSC
Hartweg's golden sunburst *Pseudobahia bahiifolia*	PDAST7P010	Endangered	Endangered	G1	S1	1B.1
hoary bat *Lasiurus cinereus*	AMACC05032	None	None	G3G4	S4	
Hoover's calycadenia *Calycadenia hooveri*	PDAST1P040	None	None	G2	S2	1B.3
Hurd's metapogon robberfly *Metapogon hurdi*	IIDIP08010	None	None	G1G2	S1S2	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S3	
Madera leptosiphon *Leptosiphon serrulatus*	PDPLM09130	None	None	G3	S3	1B.2
midvalley fairy shrimp *Branchinecta mesovallensis*	ICBRA03150	None	None	G2	S2S3	
moestan blister beetle *Lytta moesta*	IICOL4C020	None	None	G2	S2	
molestan blister beetle *Lytta molesta*	IICOL4C030	None	None	G2	S2	
Munz's tidy-tips *Layia munzii*	PDAST5N0B0	None	None	G2	S2	1B.2
Northern California legless lizard *Anniella pulchra*	ARACC01020	None	None	G3	S2S3	SSC
Northern Claypan Vernal Pool *Northern Claypan Vernal Pool*	CTT44120CA	None	None	G1	S1.1	
Northern Hardpan Vernal Pool *Northern Hardpan Vernal Pool*	CTT44110CA	None	None	G3	S3.1	
northwestern pond turtle *Actinemys marmorata*	ARAAD02031	Proposed Threatened	None	G2	SNR	SSC
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G4	S3	SSC
pincushion navarretia *Navarretia myersii ssp. myersii*	PDPLM0C0X1	None	None	G2T2	S2	1B.1
San Joaquin kit fox *Vulpes macrotis mutica*	AMAJA03041	Endangered	Threatened	G4T2	S3	
San Joaquin pocket mouse *Perognathus inornatus*	AMAFD01060	None	None	G3	S2S3	
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	PMPOA4G060	Threatened	Endangered	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Sanford's arrowhead *Sagittaria sanfordii*	PMALI040Q0	None	None	G3	S3	1B.2
snowy egret *Egretta thula*	ABNGA06030	None	None	G5	S4	
spiny-sepaled button-celery *Eryngium spinosepalum*	PDAPI0Z0Y0	None	None	G2	S2	1B.2
spotted bat *Euderma maculatum*	AMACC07010	None	None	G4	S3	SSC
succulent owl's-clover *Castilleja campestris var. succulenta*	PDSCR0D3Z1	Threatened	Endangered	G4?T2T3	S2S3	1B.2
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S4	
Sycamore Alluvial Woodland *Sycamore Alluvial Woodland*	CTT62100CA	None	None	G1	S1.1	
tricolored blackbird *Agelaius tricolor*	ABPBXB0020	None	Threatened	G3	S2	SSC
valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	IICOL48011	Threatened	None	G3T3	S3	
vernal pool fairy shrimp *Branchinecta lynchi*	ICBRA03030	Threatened	None	G3	S3	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western ridged mussel *Gonidea angulata*	IMBIV19010	None	None	G3	S2	
western spadefoot *Spea hammondii*	AAABF02020	Proposed Threatened	None	G2G3	S3S4	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

Record Count: 54

CNPS Rare Plant Inventory

Search Results

15 matches found. Click on scientific name for details

Search Criteria: , 9-Quad include [3611966:3611976:3611986:3611968:3611988:3611967:3611978:3611987:3611977]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
Calycadenia hooveri	Hoover's calycadenia	Asteraceae	annual herb	Jul-Sep	None	None	G2	S2	1B.3	Yes	1980-01-01	No Photo Available
Castilleja campestris var. *succulenta*	succulent owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	(Mar)Apr-May	FT	CE	G4? T2T3	S2S3	1B.2	Yes	1984-01-01	No Photo Available
Caulanthus californicus	California jewelflower	Brassicaceae	annual herb	Feb-May	FE	CE	G1	S1	1B.1	Yes	1984-01-01	No Photo Available
Delphinium hansenii ssp. *ewanianum*	Ewan's larkspur	Ranunculaceae	perennial herb	Mar-May	None	None	G4T3	S3	4.2	Yes	1994-01-01	No Photo Available
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	None	None	GU	S2	2B.2		1980-01-01	 © 2013 Aaron Arthur
Eryngium spinosepalum	spiny-sepaled button-celery	Apiaceae	annual/perennial herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	1980-01-01	No Photo Available

Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	None	None	G3	S3	2B.1		2006-12-26	 © 2020 Matt C. Berger
Layia munzii	Munz's tidy-tips	Asteraceae	annual herb	Mar-Apr	None	None	G2	S2	1B.2	Yes	1988-01-01	 © 2017 Neal Kramer
Leptosiphon serrulatus	Madera leptosiphon	Polemoniaceae	annual herb	Apr-May	None	None	G3	S3	1B.2	Yes	1980-01-01	 © 2008 Chris Winchell
Navarretia myersii ssp. *myersii*	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	None	None	G2T2	S2	1B.1	Yes	1994-01-01	 © 2020 Leigh Johnson
Orcuttia inaequalis	San Joaquin Valley Orcutt grass	Poaceae	annual herb	Apr-Sep	FT	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Orcuttia pilosa	hairy Orcutt grass	Poaceae	annual herb	May-Sep	FE	CE	G1	S1	1B.1	Yes	1980-01-01	 © 2003 George W. Hartwell
Pseudobahia bahiifolia	Hartweg's golden sunburst	Asteraceae	annual herb	Mar-Apr	FE	CE	G1	S1	1B.1	Yes	1974-01-01	No Photo Available
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	None	None	G3	S3	1B.2	Yes	1984-01-01	 ©2013 Debra L. Cook
Tuctoria greenei	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	FE	CR	G1	S1	1B.1	Yes	1974-01-01	 ©2008 F. Gauna

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