

# **Quail Canyon Improvement District Replacement Well and Pipeline Project**

SOLANO COUNTY, CALIFORNIA

## **CEQA Draft Initial Study with Mitigated Negative Declaration / NEPA Environmental Assessment**



**Prepared for:  
Solano Irrigation District**



810 Vaca Valley Parkway, Suite 201  
Vacaville, CA 95688

**January 2025**

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### Mitigated Negative Declaration Regarding Environmental Impact

Pursuant to: Division 13, Public Resources Code

1. **Notice is Hereby Given** that the project described below has been reviewed pursuant to the provisions of the California Environmental Quality Act of 1970 (Public Resources Code 21100, et seq.) and a determination has been made that it will not have a significant effect upon the environment.
2. **Project Name:** Quail Canyon Improvement District Replacement Well and Pipeline Project
3. **Description of Project:** The District proposes to construct a new groundwater well and conveyance pipeline in unincorporated Solano County, California.

The District owns and operates an existing public water system located in unincorporated Solano County north of the City of Vacaville, known as the Quail Canyon PWS (#CA4810012). The Quail Canyon PWS is one of the District's small rural public drinking water systems, and has a deteriorating well as its single source of water. A new well is necessary to reduce drought impacts of a failing well and increase fire resiliency within the service area.

The Project consists of installing and equipping a new 300-foot-deep groundwater well and an approximately 2,600 LF of 10 or 12-inch diameter conveyance pipeline to deliver water from the new well to the existing system (Figure 3. Project Features). Construction of the Project would require excavators, dump trucks, and a drill rig. Staging and access for construction would occur in the Lake Solano County Park parking lot directly north of the proposed pipeline. Construction is anticipated to start in the spring of 2024 and is anticipated to last approximately eight months.

The proposed Project is subject to compliance with CEQA, and the District is the CEQA lead agency. In addition, the project is utilizing federal funds from the EPA's STAG Program and compliance with NEPA is required. The EPA is the NEPA lead agency.

4. **Location of Project:** The Project is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California (Figure 1. Project Vicinity; Figure 2. Project Location).

## **5. Name and Address of Project Proponents:**

Solano Irrigation District  
810 Vaca Valley Parkway, Suite 201  
Vacaville, CA 95688

## **6. Mitigation Measures:**

**AQ-1:** Adhere to the following Best Management Practices as recommended by the Yolo-Solano AQMD:

- Water all active construction sites as necessary.
- Haul trucks shall maintain at least 2 feet of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.

**BIO-1:** Should work or vegetation removal occur within the nesting season (February 1 to August 31), the Project biologist must conduct a pre-construction survey for nesting migratory birds. The pre-construction survey shall be performed by a qualified biologist to determine the presence of nesting birds and ensure active nests are not directly or indirectly impacted during construction. The pre-construction survey area will include the limits of the project impact area plus a 250-ft buffer. No take of nesting birds is permitted by this project; if an active nest is found, the perimeter will be flagged and a qualified biologist will coordinate with the appropriate wildlife agency to determine an appropriate buffer distance and minimization measures (e.g. monitoring) to avoid take of the nest.

**BIO-2:** Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

**BIO-3:** BMPs will be incorporated into Project design and Project management to minimize impacts on the environment including erosion and the release of pollutants (e.g., oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures, and storm water control measures would be properly maintained until the site has returned to a pre-construction state;



- All construction materials would be hauled off-site after completion of construction.

- BIO-4:** All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.
- BIO-5:** The contractor must not apply rodenticide or herbicide within the Project area during construction.
- BIO-6:** If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed.
- CR-1:** An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology shall conduct archaeological monitoring during construction activities.
- CR-2:** An archaeological monitor shall provide cultural awareness training to all personnel conducting geotechnical and construction activities. The program will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program will also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native Americans and behaviors, consistent with Native American Tribal values.
- CR-3:** Solano Irrigation District will invite the Yocha Dehe Wintun Nation to a pre-construction meeting to address cultural sensitivity for construction crews working within the project area. In addition, Solano Irrigation District will inform the Yocha Dehe Wintun Nation of the construction schedule to ensure the tribe is afforded the opportunity to monitor project ground disturbing activities.
- CR-4:** If previously unidentified cultural materials are unearthed during construction, work shall be halted within 100 feet of the area until a qualified archaeologist/Tribal Monitor can assess the significance of the find and develop a plan for documentation and removal of resources if necessary. This buffer can be reduced or increased, based on the type of discovery. Additional archaeological survey will be needed if project limits are extended beyond the present survey limits. If cultural materials are prehistoric in nature, the Yocha Dehe Wintun Nation shall be consulted regarding appropriate treatment protocol.
- CR-5:** Section 5097.94 of the PRC and Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt within 100 feet of the find and the county coroner should be notified immediately. Concurrently, an archaeologist should be contacted to assess the find. If the human remains are determined to be of Native American origin, the coroner must notify the NAHC of the finding within twenty-four hours of positive identification. CEQA details steps to be

taken if human burials are of Native American origin. If the Yocha Dehe Wintun Nation is determined to be the Most Likely Descendent (MLD) by the NAHC, the tribe should be consulted regarding preferred human remains treatment protocol.

**GEO-1:** Prior to the start of construction, all construction personnel would receive paleontological sensitivity training, detailing the types of paleontological resources that may be encountered and procedures to follow if a find should occur.

**GEO-2:** If paleontological resources (i.e., fossils) are discovered during ground-disturbing activities, Solano Irrigation District project contact will immediately be notified, and will ensure that their contractors shall stop work in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures will be made in consultation with the Solano Irrigation District and Solano County.

**WQ-1:** To conform to water quality requirements, the SWPPP must include the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must be a minimum of 100 feet from surface waters. Any necessary equipment washing must occur where the water cannot flow into surface waters. The Project specifications will require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction equipment will not be operated in flowing water;
- Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to surface waters;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering surface waters;
- Equipment used in and around surface waters must be in good working order and free of dripping or leaking contaminants; and
- Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.
- The implementation of mulches, soil binders and erosion control blankets, silt fencing, fiber rolls, temporary berms, sediment de-silting basins, sediment traps and check dams will aid in reducing erosion and sedimentation during ground-disturbing activities.

**WQ-2:** The proposed project would require a NPDES General Construction Permit for Discharges of storm water associated with construction activities (Construction General Permit 2012-0006-DWQ). A SWPPP would also be developed and implemented as part of the Construction General Permit.

**WQ-3:** The construction contractor shall adhere to the SWRCB Order No. 2012-0006-DWQ NPDES Permit pursuant to Section 402 of the CWA. This permit authorizes storm water and authorized non-storm water discharges from construction activities. As part of this Permit requirement, a SWPPP shall be prepared prior to construction consistent with the requirements of the RWQCB. This SWPPP will incorporate all

applicable BMPs to ensure that adequate measures are taken during construction to minimize impacts to water quality.

7. A copy of the initial study regarding the environmental effect of this project is on file at:

Solano Irrigation District  
810 Vaca Valley Parkway, Suite 201  
Vacaville, CA 95688

***This study was:***

- ☒ Adopted as presented.  
☐ Adopted with changes. Specific modifications and supporting reasons are attached.

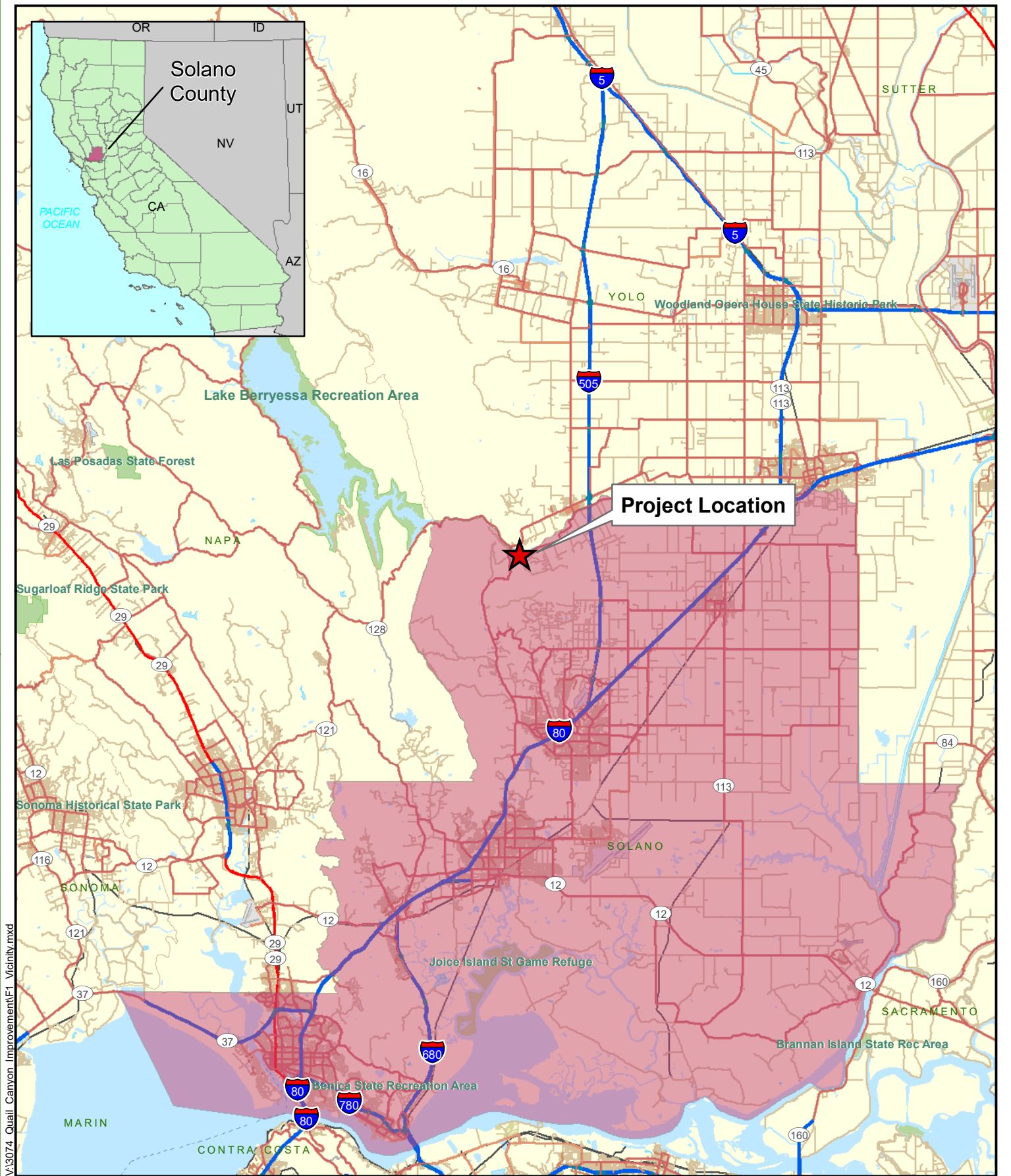
8. ***Determination:*** On the basis of the Initial Study of Environmental Impact, comments received on the proposal and our own knowledge and independent research:

☐ We find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION is hereby adopted.

☒ We find that the project COULD have a significant effect on the environment but will not in this case, because of attached mitigation measures described in Item 6 above which are by this reference made of conditions of project approval. A MITIGATED NEGATIVE DECLARATION is hereby adopted.

\_\_\_\_\_  
Cary Keaten, General Manager  
Solano Irrigation District

Date: \_\_\_\_\_



V:\3074 Quail Canyon Improvement\F1\_Vicinity.mxd

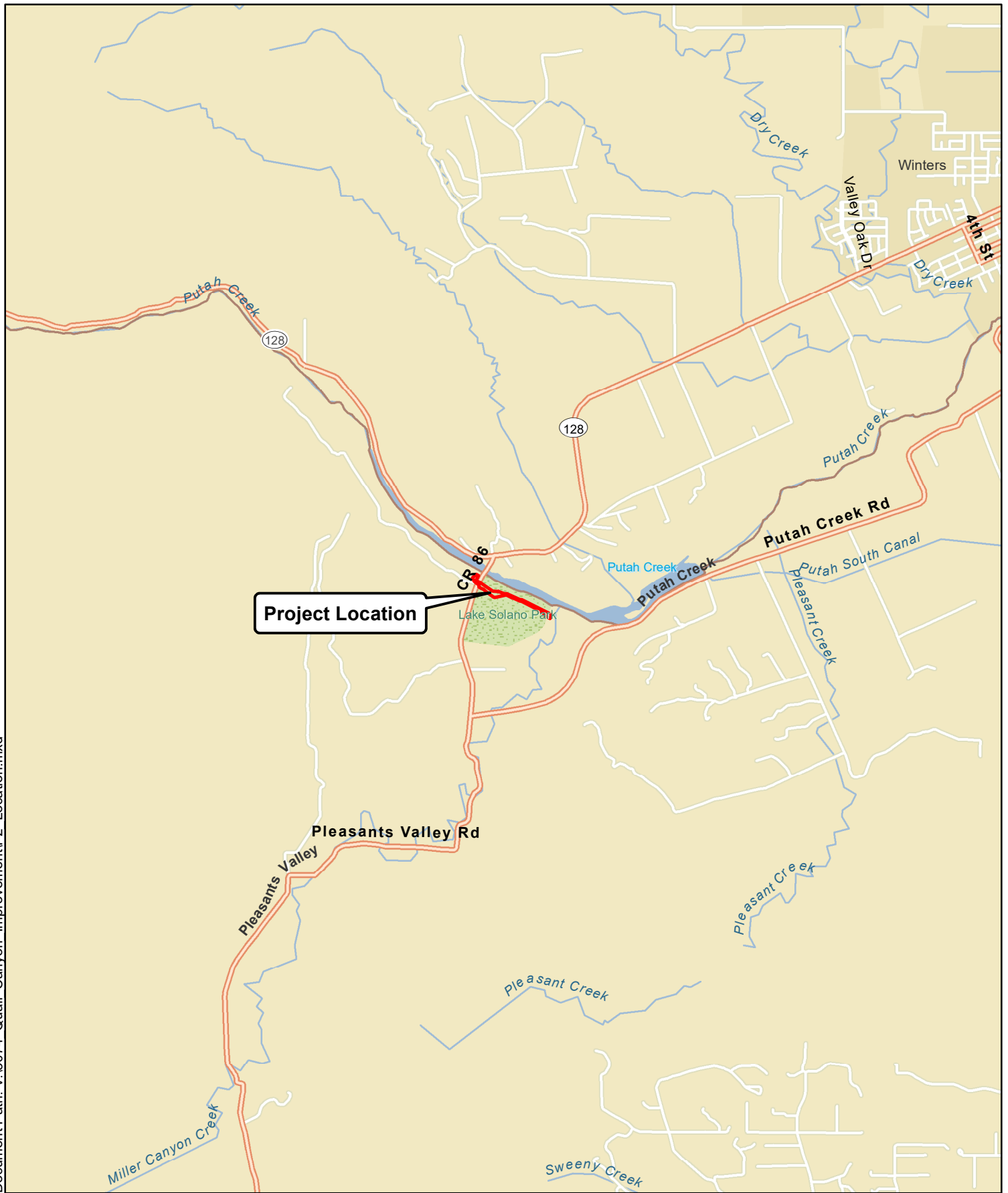
Source: ESRI 2008; Dokken Engineering 6/21/2023; Created By: ahale



0 5 10 15 Miles

**FIGURE 1**  
**Project Vicinity**

Quail Canyon Improvement District Replacement Well and Pipeline Project  
Solano County, California



Source: ESRI World Street Maps Online; Dokken Engineering 6/12/2024; Created By: astorck

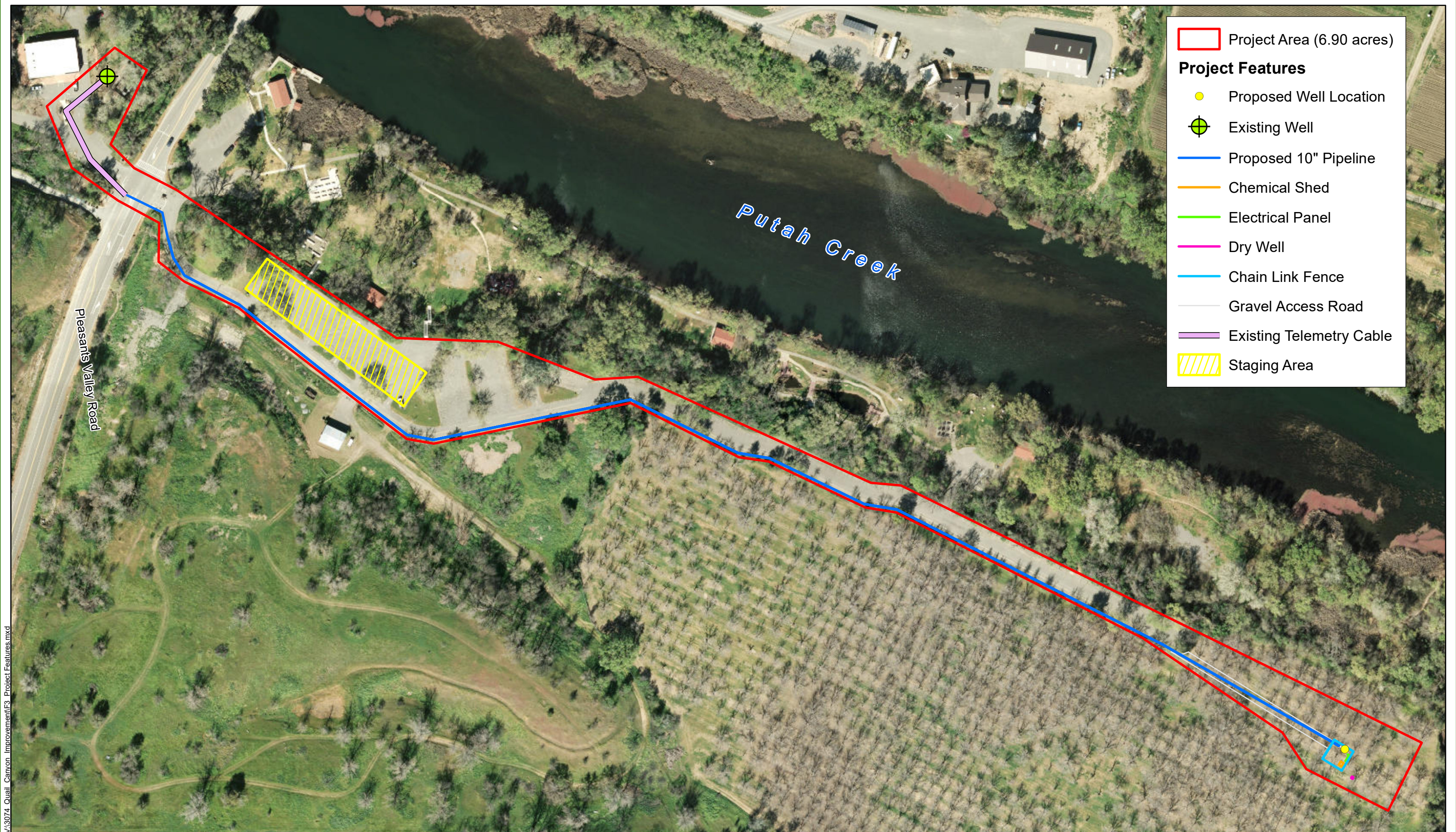


0 0.5 1 1.5 2  
Miles

**FIGURE 2**  
**Project Location**

Quail Canyon Improvement Project  
Solano County, California





Project Area (6.90 acres)

**Project Features**

Proposed Well Location

Existing Well

Proposed 10" Pipeline

Chemical Shed

Electrical Panel

Dry Well

Chain Link Fence

Gravel Access Road

Existing Telemetry Cable

Staging Area

V:\3074 Quail Canyon Improvement\F3 Project Features.mxd

Source: ESRI Maps Online; Dokken Engineering 6/12/2024; Created By: astorck

1 inch = 158.33 feet

0

150

300

450

600

750

Feet

**Figure 3**  
**Project Features**  
Quail Canyon Improvement District Replacement Well and Pipeline Project  
Solano County, California



### ***CEQA Initial Study***

1. ***Notice is Hereby Given*** that the project described below has been reviewed pursuant to the provisions of the California Environmental Quality Act of 1970 (Public Resources Code 21100, et seq.) and a determination has been made that it will not have a significant effect upon the environment.
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The Project consists of installing and equipping a new 300-foot-deep groundwater well and an approximately 2,600 LF of 10 or 12-inch diameter conveyance pipeline to deliver water from the new well to the existing system. Construction of the Project would require excavators, dump trucks, and a drill rig. Staging and access for construction would occur in the Lake Solano County Park parking lot directly north of the proposed pipeline. Construction is anticipated to start in the spring of 2024 and is anticipated to last approximately eight months.

The proposed Project is subject to compliance with CEQA, and the District is the CEQA lead agency. In addition, the project is utilizing federal funds from the EPA's STAG Program and compliance with NEPA is required. The EPA is the NEPA lead agency.

4. ***Lead Agency:*** Solano Irrigation District  
810 Vaca Valley Parkway, Suite 201  
Vacaville, CA 95688
5. ***Contact Person:*** Paul Fuchslin, Solano Irrigation District  
707.455.4020
6. ***Project Location:*** The Project is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California.
7. ***Applicants:*** Solano Irrigation District  
810 Vaca Valley Parkway, Suite 201  
Vacaville, CA 95688
8. ***General Plan:*** Agriculture
9. ***Zoning:*** A-80
10. ***Surrounding Land Uses and Setting:*** The proposed conveyance pipeline runs in an east-west direction along the Lake Solano County Park paved road and crosses adjacent agricultural lands east within Solano Irrigation District easements.
11. ***Other agencies whose approval is required:*** None.

### **Environmental Checklist**

Pursuant to Section 15063, CEQA Guidelines, the Solano Irrigation District has utilized an Environmental Checklist to evaluate the potential environmental effects of the project. The checklist provides a determination of these potential impacts and includes the substantiation developed in support of the conclusions checked on the form.

### **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.

<input type="checkbox"/>	Aesthetics	<input type="checkbox"/>	Agriculture and Forestry	<input checked="" type="checkbox"/>	Air Quality
<input checked="" type="checkbox"/>	Biological Resources	<input checked="" type="checkbox"/>	Cultural Resources	<input type="checkbox"/>	Energy
<input checked="" type="checkbox"/>	Geology/Soils	<input type="checkbox"/>	Greenhouse Gas Emissions	<input type="checkbox"/>	Hazards and Hazardous Materials
<input checked="" type="checkbox"/>	Hydrology/Water Quality	<input type="checkbox"/>	Land Use/Planning	<input type="checkbox"/>	Mineral Resources
<input type="checkbox"/>	Noise	<input type="checkbox"/>	Population/Housing	<input type="checkbox"/>	Public Services
<input type="checkbox"/>	Recreation	<input type="checkbox"/>	Transportation	<input checked="" type="checkbox"/>	Tribal Cultural Resources
<input type="checkbox"/>	Utilities/Service Systems	<input type="checkbox"/>	Wildfire	<input checked="" type="checkbox"/>	Mandatory Findings of Significance

**Determination**

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.
- ☒ 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** 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 **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all 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.

By:

\_\_\_\_\_  
Cary Keaten, General Manager  
Solano Irrigation District

Date: \_\_\_\_\_

### **Evaluation of Environmental Impacts**

- 1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources the District 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).
- 2) 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.
- 3) Once the District 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.
- 4) "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 District 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 (5) below, may be cross-referenced).
- 5) 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.
- 6) The District is 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.

- 7) Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
- 8) This is only a suggested form, and the District is free to use different formats; however, the District should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
- 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.

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Appendix A – Biological Resources Report

Appendix B – Native American Consultation Outreach Log

Appendix C – FEMA Firmette Map

## **CEQA Environmental Checklist**

This checklist identifies physical, biological, social and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects indicate no impacts. A NO IMPACT answer in the last column reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

<b>I. AESTHETICS</b> : Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views the site and its surroundings (public views are those that are experience 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Regulatory Settings**

CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state "with...enjoyment of aesthetic, natural, scenic and historic environmental qualities (CA Public Resources Code Section 21001[b])."

- a) **No Impact.** According to the Solano County General Plan, the nearest scenic resource is Pleasant Valley Road, a scenic roadway, located directly adjacent to the project area. The project would not result in any effects to Pleasant Valley Road, and the project would not involve above-ground structures that would have adverse impacts to scenic vistas or resources; therefore, no impact would occur.
- b) **No Impact.** According to the California Department of Transportation (Caltrans 2023), the project is not located within a designated state scenic highway. Additionally, the project does not anticipate any substantial damage to trees, rock outcroppings, and there are no historic buildings within the project area; therefore, no impact would occur.
- c) **No Impact.** Overall visual impacts would be considered low, considering viewers (rural residents) will only have a temporary visual disturbance from construction activities. The project would be installing and equipping a new 300-foot-deep groundwater well and an approximately 2,600 LF of 10 or 12-inch diameter conveyance pipeline to deliver water from the new well to the existing system. All areas would remain in the same conditions once temporary construction activities have ceased. The project is consistent with current land use, complies with Solano County ordinances, and will not adversely affect any viewer group; therefore, no impact would occur.
- d) **No Impact.** The project would not create a source of glare that would cause a public hazard or annoyance. The project is an underground water transmission line and all work areas would return to previous conditions once temporary construction activities have ceased. The project would not create any new sources of light or glare; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>II. AGRICULTURE AND FOREST RESOURCES:</b> 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 the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) **No Impact.** The Farmland Mapping and Monitoring Program of the California Resources Agency identifies the project area as containing "Other Land" and Prime Farmland. The proposed project will install a new groundwater well and a conveyance pipeline to deliver water from the new well to the existing system; thus, all areas of land temporarily affected would return to previous conditions and use. While the Project would temporarily occupy Prime Farmland; there would be no permanent conversion of Prime, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; therefore, a less than significant impact would occur.
- b) **No Impact.** There will be no zoning changes to the properties served by this project; therefore, no impact would occur.
- c) **No Impact.** There are no forest lands or timberlands (or lands zoned as such) in the project study area; therefore, no impact would occur.
- d) **No Impact.** The project would not result in the loss of forest land or farmland, or conversion of forest land or farmland to non-forest/farmland use; therefore, no impact would occur.
- e) **No Impact.** The project would not result in the loss of forest land or farmland, or conversion of forest land or farmland to non-forest/farmland use; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>III. AIR QUALITY:</b> 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## **Regulatory Settings**

The Clean Air Act (CAA) as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can reside in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM), lead (Pb), and sulfur dioxide (SO<sub>2</sub>).

Regional level conformity in California is concerned with how well the region is meeting the standards set for CO, NO<sub>2</sub>, O<sub>3</sub>, and PM. California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP[s]) are developed that include all of the transportation projects planned for a region over a period of at least 20 years. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, such as the Yolo-Solano Air Quality Management District and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity



is attained. If the design and scope of the project are the same as described in the RTP, then the project is deemed to meet regional conformity requirements for purposes of project-level analysis.

#### Federal and State Ambient Air Quality Standards

California and the federal government have established standards for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions). The pollutants of greatest concern in the project area are ozone, particulate matter-2.5 microns (PM<sub>2.5</sub>) and particulate matter-10 microns (PM<sub>10</sub>). Table 3 shows the state and federal standards for a variety of pollutants.

#### State Regulations

Responsibility for achieving California's air quality standards, which are more stringent than federal standards, is placed on the California Air Resources Board (CARB) and local air districts and is to be achieved through district-level air quality management plans that will be incorporated into the SIP. In California, the EPA has delegated authority to prepare SIPs to the CARB, which, in turn, has delegated that authority to individual air districts.

The CARB has traditionally established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emission inventories, collecting air quality and meteorological data, and approving state implementation plans.

Responsibilities of air districts include overseeing stationary source emissions, approving permits, maintaining emissions inventories, maintaining air quality stations, overseeing agricultural burning permits, and reviewing air quality-related sections of environmental documents required by CEQA.

The California CAA of 1988 substantially added to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA focuses on attainment of the state ambient air quality standards, which, for certain pollutants and averaging periods, are more stringent than the comparable federal standards.

The California CAA requires designation of attainment and nonattainment areas with respect to state ambient air quality standards. The California CAA also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan if the district violates state air quality standards for CO, SO<sub>2</sub>, NO<sub>2</sub>, or ozone. These Clean Air Plans are specifically designed to attain these standards and must be designed to achieve an annual 5% reduction in district-wide emissions of each nonattainment pollutant or its precursors. Where an air district is unable to achieve a 5% annual reduction, the adoption of "all feasible measures" on an expeditious schedule is acceptable as an alternative strategy (Health and Safety Code Section 40914(b)(2)). No locally prepared attainment plans are required for areas that violate the state PM<sub>10</sub> standards.

The California CAA requires that the state air quality standards be met as expeditiously as practicable but, unlike the federal CAA, does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

CARB's Air Quality and Land Use Handbook: A Community Health Perspective (2005) provides ARB recommendations for the siting of new sensitive land uses (including residences) near freeways, distribution centers, ports, refineries, chrome plating facilities, dry cleaners, and gasoline stations. The handbook recommends that new development be placed at distances from such facilities.

- a) **No Impact.** A project is considered to conflict with or obstruct implementation of regional air quality plans if it would be inconsistent with the emissions inventories contained in the regional air quality plans. Emission inventories are developed based on projected increases in population growth and vehicle miles traveled (VMT) within the region. The project would not result in an increase in population or VMT. Therefore, no impact would occur.
- b) **Less than Significant.** The proposed project would install a new groundwater well and a conveyance pipeline to deliver water from the new well to the existing system. Construction activities would result in short-term and intermittent increases in criteria pollutants; however, these would be temporary and would not result in a cumulatively considerable net increase of any criteria pollutant. Additionally, no long-term operational impacts to net increases of criteria pollutants would occur; therefore, impacts would be considered less than significant.
- c) **Less than Significant with Mitigation.** The project site is located within an agricultural area, adjacent to a park. The closest sensitive receptors are residences and the park located approximately 300-feet to 0.25-miles from the project site; however, construction would be short-term and intermittent. The project would not result in substantial, long-term quantities of pollutant concentrations that would affect the surrounding rural residents and recreationalists at the park. Fugitive dust may potentially be generated from the excavation and movement of construction equipment along the unpaved areas on the project site. Adherence to Best Management Practices (BMPs), as recommended by the Yolo-Solano AQMD and described below in **AQ-1**, would be implemented to minimize temporary impacts to air quality; therefore, impacts are considered less than significant.
- d) **Less than Significant.** The project site is located within an agricultural area, adjacent to a park, and would not produce sufficient quantities of objectionable odors during construction that would affect the surrounding rural residents; therefore, impacts are considered less than significant.

## **Mitigation Measures**

Implementation of the following measures will reduce any air quality impacts resulting from construction activities:

**AQ-1:** Adhere to the following Best Management Practices as recommended by the Yolo-Solano AQMD:

- Water all active construction sites as necessary.
- Haul trucks shall maintain at least 2 feet of freeboard.
- Cover all trucks hauling dirt, sand, or loose materials.
- Cover inactive storage piles.
- Sweep streets if visible soil material is carried out from the construction site.

<b>IV. BIOLOGICAL RESOURCES: Would the project:</b>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

# **Regulatory Settings**

## **Federal Regulations**

### **National Environmental Policy Act**

NEPA provides an interdisciplinary framework for environmental planning by Federal agencies and contains action-forcing procedures to ensure that Federal agency decision makers take environmental factors into account. NEPA applies whenever a Federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. The EPA is the lead agency for this project.

### **Federal Endangered Species Act**

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or National Marine Fisheries Service (NMFS).

### **Clean Water Act**

The Clean Water Act (CWA) was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the U.S. CWA serves as the primary Federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations, and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is CWA's primary regulatory tool. This project will require a CWA Section 402 National Pollutant Discharge Elimination System (NPDES) Permit regulated by the EPA.

The United States Army Corps of Engineers (USACE) regulates discharges of dredged or fill material into waters of the U. S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations).

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of USACE (i.e., waters of the U.S. including any wetlands). The RWQCB also asserts authority over "waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

### **Executive Order 13112: Prevention and Control of Invasive Species**

Executive Order (EO) 13112 (signed February 3, 1999) directs all Federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO and directives from the FHWA require consideration of invasive species in NEPA

analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

### **Executive Order 13186: Migratory Bird Treaty Act**

EO 13186 (signed January 10, 2001) directs each Federal agency taking actions that could adversely affect migratory bird populations to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- Avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- Restore and enhance habitat of migratory birds, as practicable; and
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist Federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations [CFR] 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as “the action of or attempt to pursue, hunt, shoot, capture, collect, or kill” (50 CFR 10.12) and specifies intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

### **State Regulations**

#### **California Environmental Quality Act**

California State law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The Solano Irrigation District is the CEQA lead agency for this project.

#### **California Endangered Species Act**

The California Endangered Species Act (CESA) (California Fish and Game (CFG) Code Section 2050 et seq.) requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires the CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

#### **Section 1602: Streambed Alteration Agreement**

Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely

affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

### **Section 3503 and 3503.5: Bird and Raptors**

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests. Trees and shrubs are present in and adjacent to the study area and could contain nesting sites.

### **Section 3513: Migratory Birds**

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

## **Affected Environment**

Prior to field work, literature research was conducted through the USFWS Information for Planning and Conservation (IPaC) Species List Generator (USFWS 2023), California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) (CDFW 2023), the California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Plants (CNPS 2023), and National Marine Fisheries Service (NMFS) West Coast Region Species List (NMFS 2023) to identify habitats and special-status species having the potential to occur within the project area.

A biological field survey was conducted on July 5, 2023, by Dokken Engineering biologist Vincent Chevreuil. Habitat assessments were conducted within the project area to assess the vegetative communities present, identify biological resources which may be impacted by the Project, and evaluate the potential for special status species to occur on-site.

Prior to field surveys, the project area was defined as the project impact area to facilitate construction access and capture potential biological resources adjacent to project limits. Habitat assessment and analysis of historic occurrences were conducted to determine the potential for each of these species to occur within the project area.

Biological surveys and habitat assessment methods included walking meandering transects through the entire project area, observing vegetation communities, compiling notes on observed flora and fauna, and assessing the potential for existing habitat to support sensitive plants and wildlife. Regionally, the project area is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California. This project is located within the Sacramento Valley Floristic Province (Jepson 2023). Solano County experiences Mediterranean conditions including warm, dry summers and cool, wet winters. The average annual high temperature is approximately 77 degrees Fahrenheit (°F), and the average annual lows reach approximately 50°F, with up to 24.13 inches of precipitation annually (U.S. Climate Data 2023). The elevation of the project area is approximately 150 feet above mean sea level. The soil types within the project area include Yolo loam, 0 to 4 percent slopes, MLRA 17 (92.5% of Project area) and Riverwash (Natural Resource Conservation Service [NRCS] 2023; Appendix E. NRCS Soil Report).

Plant and wildlife species observed within the project area during the July 2023 biological survey efforts were used to define land cover types based on composition, abundance, and cover. No natural habitat communities are present within the project area, which is comprised of barren land cover and an orchard (Figure 4. Vegetation Communities).





V:\3074 Quail Canyon Improvement\Biology\F4\_Veg Comm.mxd

Source: ESRI Maps Online; Dokken Engineering 5/9/2024; Created By: kjacobson



1 inch = 175 feet



**Figure 4**  
**Vegetation Communities**  
Quail Canyon Improvement District Replacement Well and Pipeline Project  
Solano County, California



- a) **Less than Significant with Mitigation.** A Biological Resources Technical Report (BRTR) was prepared in July 2023 and serves as basis for much of this section (Appendix A). A search of USFWS, CDFW, and CNPS databases indicated one special-status animal species has the potential to occur within the project area (Appendix A). The special-status species that has the potential to be present within the project area is Swainson's hawk (*Buteo swainsoni*).

#### Special Status Species Discussion

##### *Swainson's Hawk*

The Swainson's hawk is a raptor species that is state listed as threatened. Swainson's hawk migrates annually from wintering areas in South America to breeding locations in northwestern Canada, the western U.S., and Mexico. In California, Swainson's hawk nest throughout the Sacramento and San Joaquin Valley in large trees in riparian habitats and in isolated trees in or adjacent to agricultural fields. The breeding season extends from late March through late August, with peak activity from late May through July (England et al. 1997). Swainson's hawks forage in large, open agricultural habitats, including alfalfa and hay fields. The breeding population in California has declined by an estimated 91% since 1900; this decline is attributed to the loss of riparian nesting habitats and the conversion of native grassland and woodland habitats to agriculture and urban development (CDFW 1994).

The Project area does not encompass suitable Swainson's hawk nesting or foraging habitat. However, the Project is located adjacent to the riparian corridor of Putah Creek, which is known to support nesting individuals of this species. In addition, there is a recent (2016) CNDDDB occurrence of this species located approximately 4 miles northeast of the Project. Due to the recent, local CNDDDB occurrence as well as the Project's proximity to a suitable riparian corridor, the species may have a low potential to incidentally occur within the Project area.

#### Project Impacts to Swainson's Hawk

Project impacts would occur within regularly disturbed urban and orchard land cover areas. No impacts to Swainson's hawk nesting or foraging habitat will result from the construction of this Project. With the implementation of the appropriate avoidance and minimization measure BIO-1, no take of this species is expected.

#### Avoidance and Minimization Efforts for Swainson's Hawk

With the implementation of avoidance and minimization measure BIO-1, no impacts to Swainson's hawk are anticipated to result from this Project.

- b) **No Impact.** Land cover types within the project area include barren land cover and orchard habitat. No sensitive habitats and/or natural communities of special concern were observed within the project area during the biological survey conducted on July 5, 2023 (Figure 4. Vegetation Communities). As such, no impacts to sensitive natural communities will result from the construction of this project.
- c) **No Impact.** Land cover types within the project area include barren land cover and orchard habitat. No wetlands or other jurisdictional water features were observed within the Project area during the biological survey conducted on July 5, 2023 (Figure 4. Vegetation Communities). As such, the project will not have impacts to jurisdictional waters and regulatory permits regarding jurisdictional waters are not required.

- d) **No Impact.** The majority of the project area includes barren land with some orchard habitat. According to CDFW (CDFW 2023), there are no California Essential Habitat Connectivity areas within the project area. There are no wetlands or jurisdictional water features within the project area. As such, the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) **No Impact.** The project would not conflict with any local policies or ordinances protecting biological resources. Therefore, no impact would occur.
- f) **No Impact.** Currently, there are no conflicts with local or state conservation plans. Therefore, no impact would occur.

## **Mitigation Measures**

- BIO-1:** Should work or vegetation removal occur within the nesting season (February 1 to August 31), the Project biologist must conduct a pre-construction survey for nesting migratory birds. The pre-construction survey shall be performed by a qualified biologist to determine the presence of nesting birds and ensure active nests are not directly or indirectly impacted during construction. The pre-construction survey area will include the limits of the project impact area plus a 250-ft buffer. No take of nesting birds is permitted by this project; if an active nest is found, the perimeter will be flagged and a qualified biologist will coordinate with the appropriate wildlife agency to determine an appropriate buffer distance and minimization measures (e.g. monitoring) to avoid take of the nest.
- BIO-2:** Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.
- BIO-3:** BMPs will be incorporated into Project design and Project management to minimize impacts on the environment including erosion and the release of pollutants (e.g., oils, fuels):
- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
  - All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;
  - Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
  - Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;
  - All erosion control measures, and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
  - All construction materials would be hauled off-site after completion of construction.

- BIO-4:** All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.
- BIO-5:** The contractor must not apply rodenticide or herbicide within the Project area during construction.
- BIO-6:** If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed.

<b>V. CULTURAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Regulatory Setting

The CEQA Guidelines Section 15064.5(a), and the Public Resources Code (PRC) 5024(a)(b) and (d) require consideration of potential project impacts to "unique" archaeological sites that do not qualify as historical resources. The statutory requirements for unique archaeological sites that do not qualify as historical resources are established in PRC Section 21083.2. These two PRC sections operate independently to ensure that significant potential impacts on historical and archaeological resources are considered as part of a CEQA project's environmental analysis. Historical resources, as defined in the CEQA regulations, include:

- Cultural resources listed in or eligible for listing in the California Register of Historical Resources (California Register);
- Cultural resources included in a local register of historical resources;
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in one of several historic themes important to California history and development.

Under CEQA, a project may have a significant effect on the environment if the project could result in a substantial adverse change in the significance of a historical resource, meaning the physical demolition, destruction, relocation, or alteration of the resource would be materially impaired. This would include any action that would demolish or adversely alter the physical characteristics of a historical resource that convey its historic significance and qualify it for inclusion in the California Register or in a local register or survey that meets the requirements of PRC Section 5020.1(l) and 5024.1(g). PRC Section 5024 also requires state agencies to identify and protect state-owned resources that meet National Register of Historic Place (National Register) listing criteria.

Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the SHPO before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks. Also, CEQA and CEQA Guidelines recommend provisions be made for the accidental discovery of archaeological sites, historical resources, or Native American human remains during construction (PRC Section 21083.2(i) CCR Section 15064.5[d and f]).

## **Affected Environment**

The Area of Potential Effects (APE) was established as the area of direct and indirect effects, encompassing approximately 6.9 acres (**Figure 5.**). The vertical APE for all ground disturbing activities is limited to pipeline trenching, well installation, and storage yard construction which will have a maximum depth of up to 3 feet for the storage yard, up to 5 feet for the pipeline trench and up to 300 feet for the well and temporary well.

Efforts to identify cultural resources in the APE included background research, a search of previously recorded archaeological site records and cultural resource identification reports on file at the California Historical Resources Information System Northwest Information Center (NWIC), a search of the Sacred Lands File (SLF) with the Native American Heritage Commission (NAHC), efforts to coordinate with Native American representatives, a pedestrian surface survey and an Extended Phase I (XPI) testing excavation.

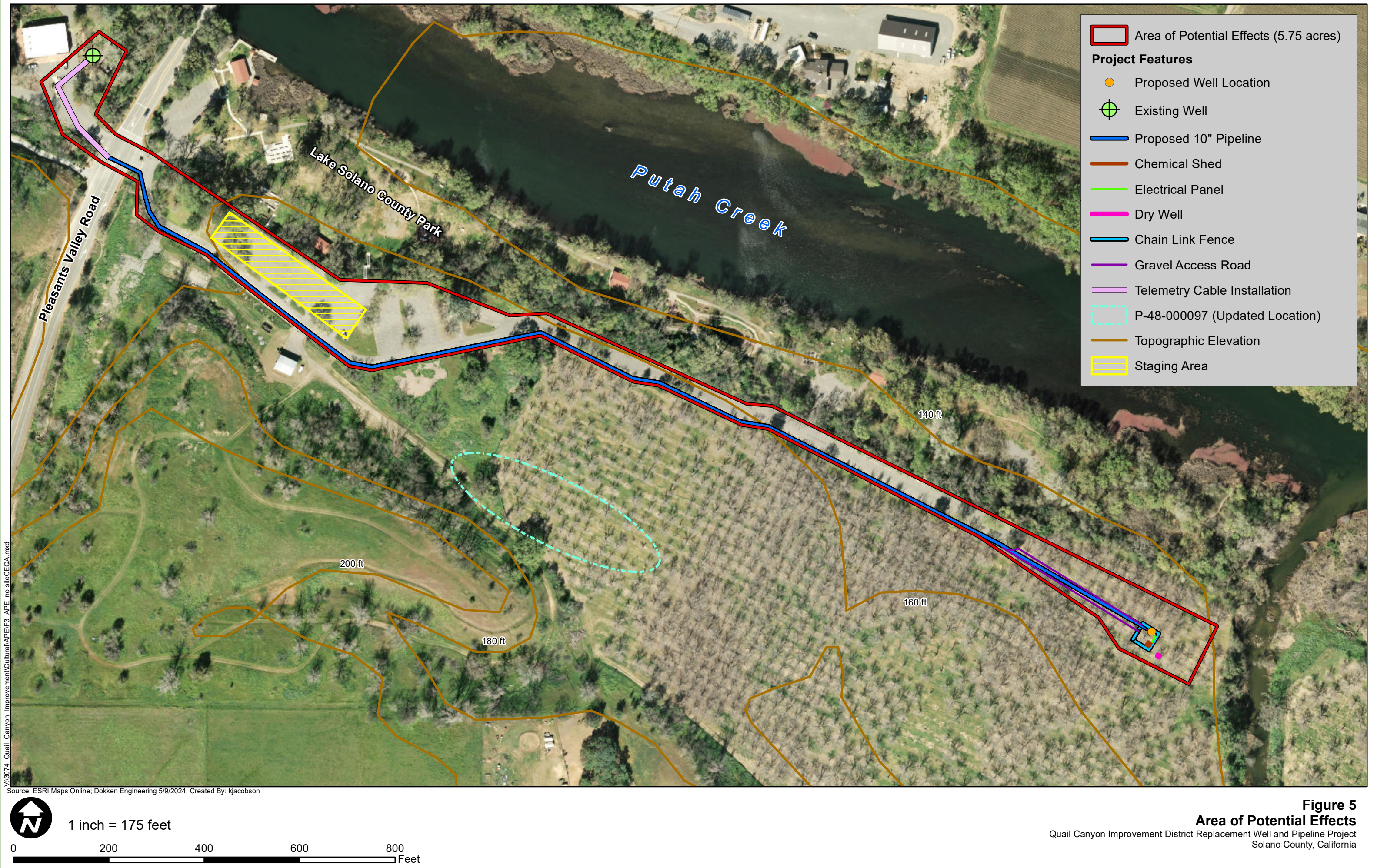
### *Records Search*

On July 18, 2023, Dokken Engineering (Dokken) conducted a records search (NWIC File No.: 122-1990) at the Northwest Information Center (NWIC). The search accessed the California Historical Resources Information System (CHRIS) for any previously known or recorded cultural resources. The search included a review of all known archaeological sites, studies, and isolates within a one-mile radius of the project area. Additional sources reviewed included the following:

- The *National Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation 2002);
- The *California Register of Historic Places* (Historic Properties Directory, California Office of Historic Preservation 2002);
- The *California Historical Landmarks* (California Office of Historic Preservation 1996);
- The *California Points of Historical Interest* (California Office of Historic Preservation 1992);
- The *California Inventory of Historic Resources* (California Department of Parks and Recreation 1976);
- And other pertinent historical inventories including relevant historic maps and General Land Office plats (1859).

The results of these efforts indicate that there are historical resources as defined by 15064.5 of the CEQA guidelines located adjacent to the APE. One (1) previously recorded historic-era resource and four (4) indigenous resources have been documented in association with 14 cultural resource investigations that were conducted within one mile of the Project between 1980 and 2019. No known cultural resources were reported within the APE.







### *Native American Consultation*

On October 11, 2023, a letter and map depicting the Project vicinity and location was sent to the Native American Heritage Commission (NAHC) to review the Sacred Land File (SLF) for any Native American cultural resources that might be affected by the proposed Project. On November 14, 2023, Pracilla Torres-Fuentes, Cultural Resource Analyst with the NAHC, informed via email that the SLF failed to indicate the presence of Native American resources within the Project area.

To help determine whether the Project may have an effect, PRC Section 21080.3.1 requires the CEQA lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. On October 20, 2023, initial consultation letters were mailed to the Native American tribal representatives who have previously submitted in writing to the Solano Irrigation District a request to be notified of projects within their traditionally and culturally affiliated area, pursuant to PRC Section 21080.3.1. Seeking any information regarding known traditional cultural properties, Tribal Cultural Resources (TCR), or other cultural resources of significance, these notification letters provided a summary of the proposed project, attendant map figures, and invited any comments or concerns the tribal representatives might have about the Project. Correspondence was sent via certified mail to the following individuals and organizations:

- Confederated Villages of Lisjan Nation
  - *Corrina Gould, Tribal Chair*. On October 30, 2023, Ms. Gould requested copies of the Sacred Lands File search and cultural resources report which were provided on November 16, 2023 and were informed that the Yocha Dehe Wintun Nation would monitor the testing investigation. Ms. Gould stated on November 21, 2023, the Tribe has no further information regarding the Project. The final Cultural Resource Inventory Report was provided to the Tribe on February 5, 2024.
- Yocha Dehe Wintun Nation
  - *Yvonne Perkins, THPO, Cultural Resources Chairperson*. The notification letter dated October 30, 2023, was sent via mail. See consultation with Eric Hernandez below.
  - *Anthony Robert, Chairperson*. The notification letter dated October 30, 2023, was sent via mail. See consultation with Eric Hernandez below.
  - *Eric Hernandez, Site Protection Manager*. Mr. Hernandez responded to the email sent to Ms. Perkins on November 13, 2023 and stated the tribe requests monitors be present during the testing investigation. Dokken Engineering provided the Tribe with a proposed testing exhibit on December 4, 2023 and coordinated with the Tribal for monitoring. The final Cultural Resource Inventory Report was provided to the Tribe on February 5, 2024.

### *Cultural Field Surveys*

On August 28, 2023, Dokken Engineering archaeologist Michelle Campbell, conducted a pedestrian surface survey of the entire APE. The surface survey was conducted via controlled transects spaced at no greater than 5 meters (16 feet). Surface visibility within the APE varied, ranging between 80 to 100 percent. Although paved areas had 0% visibility, adjacent exposed road shoulders or planting areas were surveyed. Particular attention was paid to de-vegetated surface exposures, as well as rodent burrows, cut banks and other exposed areas where the surface of anthropogenic soils are more likely to be observed. While the western portion of the APE primarily consists of a paved parking lot and the Lake Solano County Park recreational features, the eastern portion of consists of a privately owned walnut orchard.



Full results are disclosed in the confidential document *Cultural Resources Inventory Report for the Quail Canyon Improvement District Replacement Well and Pipeline Project, Solano County, California*. The pedestrian survey identified that the APE has been subject to extensive surface disturbance resulting from agricultural activity as well as from the construction of the parking lot and access road for Lake Solano County Park.

#### *Extended Phase I Excavation*

On December 12, 2023, an Extended Phase I (XPI) excavation was conducted by Dokken archaeologists Michelle Campbell, Namat Hosseinion and Gabrielle Zachoszaj to confirm the presence or absence of subsurface archaeological resources or deposits. XPI efforts include five trenches, 2.5 meters (8 feet) long by 0.75 meters (2.5 feet) wide by 1.5 meters (5 feet) deep. Seven test trenches were proposed; however, field conditions included several fallen trees within the APE which obstructed access to two of the proposed trench locations resulting in a total of five trenches. As a result of the XPI testing, no subsurface buried resources or occupational horizons were identified within the unpaved portion of the APE.

#### *Archaeological Sensitivity*

Based on the occurrence of known resources in the vicinity, topographic considerations, and extant geoarchaeological information, the Project falls within an area of high sensitivity for archaeological resources.

Soils present in the APE are composed largely of deep, well-drained Corning gravelly series soils formed in alluvium derived from metamorphic and sedimentary rock as well as of flood deposits located adjacent to Punta Creek. Inspection of open surfaces, visible cut slopes, and drainage cut banks during the field survey, in addition to the XPI revealed no evidence of subsurface artifacts, features, or other indicators of past human use of other previously unidentified Indigenous or historic resources.

Although the archaeological sensitivity of the area is considered to be high, much or all of the vertical APE has been subject to past ground disturbance associated with agricultural activity and roadway development. These prior and ongoing surface disturbances frequently have two effects: 1) exposure of subsurface archaeological deposits via the disturbance itself, rendering resources easier to identify during surface survey, and 2) diminishing the potential that such resources would retain the integrity to qualify as a historical resource under §15064.5. With the information gained from the survey, XPI effort, and distance from previously recorded resources surrounding the APE, there is low potential to encounter significant historical or archaeological resources within the APE.

### **Environmental Impacts**

- a) *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*
- b) *Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?*

**Less than significant with Mitigation.** Results of the survey and XPI indicate that while the Project area has high sensitivity for cultural resources, the potential to impact significant cultural resource deposits within the APE is low. Overall, project impacts would be limited to a portion of an adjacent resource that does not contribute to the characteristics that made the site potentially eligible for the NRHP/CRHR.

With implementation of **CR-1** through **CR-5**, the Project would not cause a substantial adverse change in the significance of an historical or archaeological resource pursuant to §15064.5. Impacts related to the Build Alternative would be **Less than Significant with Mitigation**. The No-Build alternative would result in **No Impact**.

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

**Less than Significant with Mitigation.** No human remains (including those interred outside of dedicated cemeteries) have been identified within or adjacent the APE. In the event human remains are encountered as a result of project construction activity, the implementation of Mitigation Measure **CR-5** (below) would reduce this impact to a *less-than-significant* level.

## **Mitigation Measures**

- CR-1:** An archaeologist meeting the Secretary of the Interior's Professional Qualification Standards in Archaeology shall conduct archaeological monitoring during construction activities.
- CR-2:** An archaeological monitor shall provide cultural awareness training to all personnel conducting geotechnical and construction activities. The program will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located on the project site and will outline what to do and whom to contact if any potential archaeological resources or artifacts are encountered. The program will also underscore the requirement for confidentiality and culturally-appropriate treatment of any find of significance to Native Americans and behaviors, consistent with Native American Tribal values.
- CR-3:** Solano Irrigation District will invite the Yocha Dehe Wintun Nation to a pre-construction meeting to address cultural sensitivity for construction crews working within the project area. In addition, Solano Irrigation District will inform the Yocha Dehe Wintun Nation of the construction schedule to ensure the tribe is afforded the opportunity to monitor project ground disturbing activities.
- CR-4:** If previously unidentified cultural materials are unearthed during construction, work shall be halted within 100 feet of the area until a qualified archaeologist/Tribal Monitor can assess the significance of the find and develop a plan for documentation and removal of resources if necessary. This buffer can be reduced or increased, based on the type of discovery. Additional archaeological survey will be needed if project limits are extended beyond the present survey limits. If cultural materials are prehistoric in nature, the Yocha Dehe Wintun Nation shall be consulted regarding appropriate treatment protocol.
- CR-5:** Section 5097.94 of the PRC and Section 7050.5 of the California Health and Safety Code protect Native American burials, skeletal remains and grave goods, regardless of age and provide method and means for the appropriate handling of such remains. If human remains are encountered, work should halt within 100 feet of the find and the county coroner should be notified immediately. Concurrently, an archaeologist should be contacted to assess the find. If the human remains are

determined to be of Native American origin, the coroner must notify the NAHC of the finding within twenty-four hours of positive identification. CEQA details steps to be taken if human burials are of Native American origin. If the Yocha Dehe Wintun Nation is determined to be the Most Likely Descendent (MLD) by the NAHC, the tribe should be consulted regarding preferred human remains treatment protocol.

<b>VI. ENERGY:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Regulatory Setting**

The Solano County General Plan, Chapter 4 – Resources, discusses energy resources and the conservation and use of energy resources within Solano County. According to the General Plan, fossil fuels, primarily in the form of gasoline and natural gas, currently produce the majority of energy consumption within the County. However, it is likely that environmental regulations, climate change strategies, national security requirements, and the depletion of the earth's oil reserves may cause fossil fuels to become a substantially more expensive and less viable fuel source. While fossil fuels are currently an important part of Solano's energy sources, alternatives to this type of energy are key to ensuring energy resources for the future. The General Plan states the County is committed to reducing consumption of fossil fuels and investing in energy-efficient technologies. The General Plan establishes guidelines in the form of policies, implementation programs, funding, physical improvement and capital projects, development review, ongoing planning efforts, and public outreach and education in order to achieve the general plan goals for efficient use of energy resources within the County.

- a) **Less than Significant Impact.** The proposed project would install a new groundwater well and a conveyance pipeline to deliver water from the new well to the existing system. The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Construction of the project would result in a short-term increase in consumption of oil-based energy products associated with construction equipment; however, consumption of those oil-based energy products necessary for the project would be used efficiently and in accordance with applicable local, state, and federal laws. Appropriate construction equipment would be used to minimize wasteful or inefficient actions, and construction energy consumption would not cause a significant reduction in available supplies. Therefore, the impact would be less than significant.
- b) **No Impact.** The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>VII. GEOLOGY AND SOILS:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## **Regulatory Background**

For geological and topographic features, a key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects “outstanding examples of major geological features.” Topographic and geologic features are also protected under the CEQA.

This section also discusses geology, soils, and seismic concerns as they related to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures.

Executive Order (EO) 12699, Seismic Safety of Federal and Federally Assisted or Regulated New Building Construction, required newly constructed buildings to meet standards for seismic safety set by the National Earthquake Hazard Reduction Program. However, EO 12699 applies only to construction of new buildings that are to be used or intended for sheltering persons or property and therefore is not applicable to the proposed action.

For the purpose of this document, an impact is considered significant if it allows a project to be built that will either introduce geologic or seismic hazards by allowing the construction of the project on such a site without protection against those hazards.

- a) **No Impact.** The project would not expose people or structures to potential substantial adverse effects, including risk of loss, injury, or death involving rupture of a known fault, strong seismic ground shaking, seismic-related ground failure, or landslides. The project is not located within an Alquist Priolo Earthquake Fault Zone. The nearest seismic source is an unnamed, Pre-Quaternary fault. According to the California Department of Conservation (CDC), there is a very low risk of rupture, seismic ground shaking, and seismic-related ground failure, and the project would not contribute to an exposure of such risk.

Landslides usually occur in locations with steep slopes and unstable soils. According to the CDC California Earthquake Hazards Zone Application (CDC 2021) the project area is not within a known area of landslide concern. The majority of the project area is situated on flat or very gently sloping topography where the potential for slope failure is minimal to low. The project would also have no impact related to seismic-related failure, including liquefaction, because the potential is believed to be slight at this predominantly flat, low-seismicity site. The project is not on a geologic unit or soil that is unstable or that would become unstable as a result of the project. On- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse is not anticipated. The project would result in no impact.

- b) **Less than Significant with Mitigation.** The construction of the project and construction access has potential to cause impacts of soil erosion or loss of topsoil. Potential impacts to soils would be minimized through soil stabilization measures covered within the required General Construction MS4 Permit and implementation of the SWPPP of WPCP as discussed in Section X “Hydrology and Water Quality”. Erosion control practices outlined in a SWPPP or WPCP, would reduce any potential impacts of the project to a less than significant level. In addition, measures **WQ-1** through **WQ-3** in Section X of this document would further reduce impacts to erosion of soil to less than significant with mitigation. Therefore, impacts would be considered less than significant with mitigation incorporated.
- c) **No Impact.** Refer to discussion a). The project will not be located on soil that is known to be unstable or would become unstable as a result of the project, and potentially result in on- or

off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. Therefore, no impact would occur.

- d) **No Impact.** The NRCS Custom Soil Resource Report for the project (NRCS 2020) identifies soils within the project area as: Yolo loam, 0 to 4 percent slopes, MLRA 17 (92.5% of project area) and Riverwash (7.5% of project area). None of these soil types are considered expansive; therefore, no impact would occur.
- e) **No Impact.** The proposed project is intended to expand distribution of potable water for the Solano Irrigation District's constituents. No septic tanks or alternative wastewater disposal systems are part of the project; therefore, no impact would occur.
- f) **Less than Significant with Mitigation.** A literature review was performed to determine whether paleontological resources have been previously identified in the project area and to identify the overall paleontological sensitivity of the project area. According to the Solano County 2008 General Plan Draft EIR, the project area lies within the Tehama Formation and is highly sensitive with regard to paleontological resources. With any project requiring ground disturbance within a potentially sensitive area, there is always the possibility that unknown paleontological resources may be unearthed during construction. With the implementation of mitigation measures **GEO-1** and **GEO-2**, project impacts regarding direct or indirect impacts to paleontological resources would be less than significant with mitigation.

## **Mitigation Measures**

See Section X. for mitigation measures **WQ-1** through **WQ-3**.

**GEO-1:** Prior to the start of construction, all construction personnel would receive a paleontological sensitivity training, detailing the types of paleontological resources that may be encountered and procedures to follow if a find should occur.

**GEO-2:** If paleontological resources (i.e., fossils) are discovered during ground-disturbing activities, Solano Irrigation District project contact will immediately be notified, and will ensure that their contractors shall stop work in that area and within 100 feet of the find until a qualified paleontologist can assess the significance of the find and develop appropriate treatment measures. Treatment measures will be made in consultation with the Solano Irrigation District and Solano County.



<b>VIII. GREENHOUSE GAS EMISSIONS:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## **Regulatory Setting**

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction, climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include CO<sub>2</sub>, CH<sub>4</sub>, NO<sub>x</sub>, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with greenhouse gas emissions and climate change at the state level. AB 1493 requires the California Air Resource Board (CARB) to develop and implement regulations to reduce automobile and light truck greenhouse gas emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order to enact the standards California needed a waiver from the EPA. The waiver was denied by the EPA in December 2007 and efforts to overturn the decision had been unsuccessful (see *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011). On January 26, 2009, it was announced that EPA would reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which took effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future.

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations

made by the state's Climate Action Team. With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the EPA to regulate GHG as a pollutant under the Clean Air Act (Massachusetts vs. [EPA] et al., 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions. [1]

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's greenhouse gas emission standards for light-duty vehicles, which were jointly by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.

According to Recommendations by the Association of Environmental Professionals on *How to Analyze GHG Emissions and Global Climate Change in CEQA Documents* (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(1) and 15130. To make this determination the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task.

As part of its supporting documentation for the Draft Climate Change Scoping Plan, the California Air Resource Board (CARB) released an updated version of the GHG inventory for California (July 11, 2018).

- a) **Less than Significant.** Construction activities required for the project would generate greenhouse gas emissions; however, emission generated by the project would be short-term

in duration and are not anticipated to result in adverse or long-term impacts. Additionally, the operation of the project would not generate greenhouse gas emissions. The emission of greenhouse gases during construction and operation of the proposed project would be negligible and therefore less than significant.

- b) **No Impact.** Implementation of the proposed project would not conflict with or obstruct implementation of any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. Construction and operation of the proposed project would be implemented consistent with applicable regulatory standards and requirements, including consistency with all applicable Yolo-Solano Air Quality Management District rules and thresholds. Therefore, no impact would result from development of the Proposed project.

### **Mitigation Measures**

None.

<b>IX. HAZARDS AND HAZARDOUS MATERIALS:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Regulatory Setting**

Hazardous materials and hazardous wastes are regulated by many state and federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health and land use.

Hazardous waste in California is regulated primarily under the authority of the federal Resource Conservation and Recovery Act of 1976, and the California Health and Safety Code. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning.

Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if it is disturbed during project construction.

- a) **Less Than Significant.** The project would involve the use of heavy equipment for the grading, hauling, and handling of materials. Use of this equipment may require the use of fuels and other common materials that have hazardous properties (e.g., fuels are flammable). These materials would be used in accordance with all applicable laws and regulations and, if used properly, would not pose a hazard to people, animals, or plants. All refueling of construction vehicles and equipment would occur within the designated areas for the project. The use of hazardous materials would be temporary, and the project would not include a permanent use or source of hazardous materials; therefore, impacts would be less than significant.
- b) **No Impact.** The project is a water distribution project and would not create a significant hazard to the public or the environment. There are no current or historical clean-up sites or hazardous waste facilities in proximity to the project area. The closest occurrence is approximately 3.6 miles northeast of the project area (GeoTracker, 2023).
- c) **No Impact.** There are no schools located within one-quarter mile of the proposed project.
- d) **No Impact.** After conducting a literature search with state hazardous waste sites (GeoTracker 2023; Envirostor 2023), the project area is not located on a hazardous waste site and would not create a significant hazard to the public or environment. Therefore, no impact would occur.
- e) **No Impact.** The project is not located within two miles of a public airport. The nearest airport is the Nut Tree Airport located approximately 9.4 miles southwest of the project area; therefore, no impact would occur.
- f) **No Impact.** The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; therefore, no impact would occur.
- g) **No Impact.** The project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and no wildlands are adjacent to or within the project area; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>X. HYDROLOGY AND WATER QUALITY:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Regulatory Setting**

Section 401 of the Clean Water Act (CWA) requires water quality certification from the State Water Resources Control Board (SWRCB) or from a Regional Water Quality Control Board (RWQCB) when the project requires a CWA Section 404 permit. Section 404 of the CWA requires a permit from the U.S. Army Corps of Engineers (Corps) to discharge dredged or fill material into waters of the United States.

Along with CWA Section 401, CWA Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) permit for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB and nine RWQCBs. The SWRCB and RWQCB also regulate other waste discharges to land within California through the issuance of waste discharge requirements under authority of the Porter-Cologne Water Quality Act.

The SWRCB has developed and issued a statewide NPDES permit to regulate storm water discharges from construction activities of both large and small construction projects. The permit requires the preparation of a storm water pollution prevention plan (SWPPP) for proposed construction activities of greater than 5 acres in size. A SWPPP is an operational plan that identifies and describes the BMPs to be implemented at the construction site to control pollution of stormwater runoff. Since March 10, 2003, small construction sites (those involving disturbance of less than 5 acres of soil) have also required an NPDES permit as part of Phase II of EPA's NPDES Storm Water Program. Phase II is intended to further reduce adverse impacts on water quality and aquatic habitat by instituting the use of BMPs on previously unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation.

Solano County has prepared a Storm Water Management Program (SWMP) to meet the requirements of the SWRCB and the statewide NPDES permit. The SWMP consists of six minimum control measures established by the SWRCB for Phase II storm water discharges. Each control measure contains BMPs necessary for proper storm water management. The BMPs then contain specific tasks to meet the objective of that control measure. The SWMP is intended to be an adaptive document and when necessary, new, required, or old management practices can be deleted or added as necessary.

## **Affected Environment**

Land cover types within the Project area include barren land cover and orchard habitat. No wetlands or other jurisdictional water features were observed within the Project area during the biological survey conducted on July 5, 2023. As such, the Project will not have impacts to jurisdictional waters and regulatory permits regarding jurisdictional waters are not required.

- a) **Less than Significant with Mitigation.** The project is intended to disturb greater than one acre of soil, therefore a Construction Storm Water General Permit is required, issued by the State Water Resources Control Board to address storm water runoff. The permit will address clearing, grading, grubbing, and disturbances to the ground, such as stockpiling, or excavation. This permit will also require the District to prepare and implement a SWPPP with the intent of keeping all products of erosion from moving off site into receiving waters. The SWPPP includes BMPs to prevent construction pollutants from entering storm water runoff.

Mitigation Measure **WQ-1** through **WQ-3** are required to ensure the project grading will conform to State Water Resources Control Board standards and in doing so will ensure the project impacts will be less than significant with mitigation.

- b) **Less than Significant.** The project area is situated over the Solano sub-basin within the Sacramento Valley Basin. The proposed project would install a new groundwater well and a conveyance pipeline to deliver water from the new well to the existing system. It would fall in line with the goals set in the Solano Subbasin Groundwater Sustainability Plan (Solano County 2021). It would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge; therefore, no impact would occur.
- c) **(i) Less than Significant with Mitigation.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. All work areas would return to previous conditions once temporary construction activities have ceased. The site will be returned to pre-construction conditions and would not substantially alter existing drainage patterns or cause impacts related to substantial erosion or siltation. Implementation of **WQ-1** through **WQ-3** will ensure the project does not cause substantial erosion or siltation on- or off-site, and that the project will conform with current regulations; therefore, project impacts will be less than significant with mitigation.
- (ii), (iii), and (iv) No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. All work areas would return to previous conditions once temporary construction activities have ceased. The project would not substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site. The project would not contribute to runoff water which would exceed the capacity of existing or planned stormwater drainage systems. The project would not impede or redirect flood flows. Therefore, no impact would occur.
- d) **No Impact.** The project area is not within any tsunami, or seiche zones. The project area is designated as Federal Emergency Management Agency (FEMA) Zone X – area of minimal flood hazard (Appendix C). The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system and would be constructed during the dry season. No impact is anticipated.
- e) **No Impact.** The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan; therefore, no impact would occur.

## **Mitigation Measures**

**WQ-1:** To conform to water quality requirements, the SWPPP must include the following:

- Vehicle maintenance, staging and storing equipment, materials, fuels, lubricants, solvents, and other possible contaminants must be a minimum of 100 feet from surface waters. Any necessary equipment washing must occur where the water cannot flow into surface waters. The project specifications will require the contractor to operate under an approved spill prevention and clean-up plan;
- Construction equipment will not be operated in flowing water;
- Construction work must be conducted according to site-specific construction plans that minimize the potential for sediment input to surface waters;



- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering surface waters;
- Equipment used in and around surface waters must be in good working order and free of dripping or leaking contaminants; and
- Any concrete rubble, asphalt, or other debris from construction must be taken to an approved disposal site.
- The implementation of mulches, soil binders and erosion control blankets, silt fencing, fiber rolls, temporary berms, sediment de-silting basins, sediment traps and check dams will aid in reducing erosion and sedimentation during ground-disturbing activities.

**WQ-2:** The proposed project would require a NPDES General Construction Permit for Discharges of storm water associated with construction activities (Construction General Permit 2012-0006-DWQ). A SWPPP would also be developed and implemented as part of the Construction General Permit.

**WQ-3:** The construction contractor shall adhere to the SWRCB Order No. 2012-0006-DWQ NPDES Permit pursuant to Section 402 of the CWA. This permit authorizes storm water and authorized non-storm water discharges from construction activities. As part of this Permit requirement, a SWPPP shall be prepared prior to construction consistent with the requirements of the RWQCB. This SWPPP will incorporate all applicable BMPs to ensure that adequate measures are taken during construction to minimize impacts to water quality.

<b>XI. LAND USE AND PLANNING:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Affected Environment**

The project is located in an unincorporated part of Solano County. According to Solano County General Plan (Solano County 2008), Land Use, the project area is strictly listed for agricultural development and park and recreation (Figure LU-1. Solano County General Plan Land Use Diagram).

- a) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. It would not divide an established community; therefore, no impact would occur.
- b) **Less than Significant.** The project is an underground water transmission line and would not conflict with applicable land use plans, policies, or regulations of an agency; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>XII. MINERAL RESOURCES:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Affected Environment**

According to the Solano County General Plan (Solano County 2008) minerals found within the County include: mercury, sand and gravel, clay, stone products, calcium, and sulfur. Known mineral resource zones are located to the northeast of Vallejo, to the south and southeast of Green Valley, in areas south and east of Travis Air Force Base, and in pockets located within both Vacaville and Fairfield. There are no known mineral resources within the project area (Figure RS-4. Solano County General Plan Mineral Resources).

- a) **No Impact.** There are no known valuable mineral resources available at the project site. Therefore, the project would not result in the loss of availability of a known mineral resource, and no impact would occur.
- b) **No Impact.** There are no delineated mineral resource recovery sites within or adjacent to the project site. Therefore, the project would not result in the loss of a locally-important mineral resource recovery site, and no impact would occur.

## **Mitigation Measures**

None.

<b>XIII. NOISE:</b> Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Affected Environment**

The noise environment near the project is dominated by farming and agricultural sources. Background noise levels are influenced by adjacent rural streets, including Pleasant Valley Road. Agriculture and recreational use remain the dominant noise source at the project site.

- a) **Less than Significant.** The construction activities would only occur during weekday work hours in accordance with Section 28.1-50 of the Solano County Noise Ordinance and would not generate noise in excess of the nearby roadway; therefore, impacts would be considered less than significant.
- b) **Less than Significant.** The temporary groundborne vibration and noise of the construction activities would be in accordance Section 28.1-50 of the Solano County Noise Ordinance and would not be excessive to the nearest occupied structures; therefore, impacts would be considered less than significant.
- c) **No Impact.** The project is not located within the vicinity of a private airstrip or an airport land use plan; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>XIV. POPULATION AND HOUSING:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Regulatory Setting**

CEQA also requires the analysis of a project's potential to induce growth. CEQA guidelines, Section 15126.2(d), require that environmental documents "...discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment..."

- a) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. This system provides drinking water to residences within the Quail Canyon PWS boundaries. Other existing residences that have failed wells, located outside the Quail Canyon PWS boundaries but in near proximity, may also be connected to this system; however, this system would serve existing water use needs and is not being constructed in support of new development. Therefore, the proposed project would not induce substantial population growth in the area, and no impact would occur.
- b) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. It would not displace any number of existing people or housing; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>XV. PUBLIC SERVICES:</b>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, 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:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. It would not result in substantial adverse physical impacts associated with the provision or need of new or physically altered governmental facilities, which would cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for fire protection, police protection, schools, parks, or other public facilities. The project would not cause the additional provision or need for new or physically altered fire protection, police protection, school, parks or other public facilities; therefore, no impact would occur.

### **Mitigation Measures**

None.

<b>XVI. RECREATION:</b>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) **No Impact.** The project would not increase the use of existing neighborhood and/or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; therefore, no impact would occur.
- b) **No Impact.** The project does not include recreational facilities or require the construction or expansion of recreational facilities; therefore, no impact would occur.

### **Mitigation Measures**

None.

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

- a) **Less Than Significant.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. It would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. The work would be temporary and intermittent and therefore would not result in a permanent impact to circulation on Pleasant Valley Road. Therefore, impacts are considered less than significant.
- b) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system and would not conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b). Therefore, no impact would occur.
- c) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system and would not result in any impacts related to increased hazards from geometric design features or incompatible uses; therefore, no impact would occur.
- d) **No Impact.** The project would be constructed within agricultural farmlands and is not anticipated to require any road closures which would result in inadequate emergency access; therefore, no impact would occur.

## **Mitigation Measures**

None.



<b>XVIII. TRIBAL CULTURAL RESOURCES:</b> 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:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Regulatory Setting

Effective July 1, 2015, CEQA was revised to include early consultation with California Native American tribes and consideration of tribal cultural resources (TCRs). These changes were enacted through Assembly Bill 52 (AB 52). By including TCRs early in the CEQA process, AB 52 intends to ensure that local and Tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts to TCRs. CEQA now establishes that a “project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment” (PRC § 21084.2).

To help determine whether a project may have such an adverse effect, the PRC requires a lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. That consultation must take place prior to the determination of whether a negative declaration,

mitigated negative declaration, or environmental impact report is required for a project (PRC § 21080.3.1). Consultation must consist of the lead agency providing formal notification, in writing, to the tribes that have requested notification or proposed projects within their traditionally and culturally affiliated area. AB 52 stipulates that the Native American Heritage Commission (NAHC) shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated within the project area. If the tribe wishes to engage in consultation on the project, the tribe must respond to the lead agency within 30 days of receipt of the formal notification. Once the lead agency receives the tribe's request to consult, the lead agency must then begin the consultation process within 30 days. If a lead agency determines that a project may cause a substantial adverse change to TCRs, the lead agency must consider measures to mitigate that impact. Consultation concludes when either: 1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a TCR, or 2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC § 21080.3.2). Under existing law, environmental documents must not include information about the locations of an archaeological site or sacred lands or any other information that is exempt from public disclosure pursuant to the Public Records act. TCRs are also exempt from disclosure. The term "tribal cultural resource" refers to sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

- Included or determined to be eligible for inclusion in the California Register of Historical Resources
- Included in a local register of historical resources as defined in subdivision (k) of California Public Resources Code (PRC) Section 5020.1
- A resource determined by a California lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of the PRC Section 5024.1.

## **Affected Environment**

On October 11, 2023, a letter and map depicting the Project vicinity and location was sent to the Native American Heritage Commission (NAHC) to review the Sacred Land File (SLF) for any Native American cultural resources that might be affected by the proposed Project. On November 14, 2023, Pracilla Torres-Fuentes, Cultural Resource Analyst with the NAHC, informed via email that the SLF failed to indicate the presence of Native American resources within the Project area.

To help determine whether the Project may have an effect, PRC Section 21080.3.1 requires the CEQA lead agency to consult with any California Native American tribe that requests consultation and is traditionally and culturally affiliated with the geographic area of a proposed project. On October 20, 2023, initial consultation letters were mailed to the Native American tribal representatives who have previously submitted in writing to the Solano Irrigation District a request to be notified of projects within their traditionally and culturally affiliated area, pursuant to PRC Section 21080.3.1. Seeking any information regarding known traditional cultural properties, Tribal Cultural Resources (TCR), or other cultural resources of significance, these notification letters provided a summary of the proposed project, attendant map figures, and invited any comments or concerns the tribal representatives might have about the Project. Correspondence was sent via certified mail to the following individuals and organizations:

- Confederated Villages of Lisjan Nation
  - *Corrina Gould, Tribal Chair*. On October 30, 2023, Ms. Gould requested copies of the Sacred Lands File search and cultural resources report which were provided on November 16, 2023 and were informed that the Yocha Dehe Wintun Nation would monitor the testing investigation. Ms. Gould stated on November 21, 2023, the Tribe has no further information regarding the Project. The final Cultural Resource Inventory Report was provided to the Tribe on February 5, 2024.
- Yocha Dehe Wintun Nation
  - *Yvonne Perkins, THPO, Cultural Resources Chairperson*. The notification letter dated October 30, 2023, was sent via mail. See consultation with Eric Hernandez below.
  - *Anthony Robert, Chairperson*. The notification letter dated October 30, 2023, was sent via mail. See consultation with Eric Hernandez below.
  - *Eric Hernandez, Site Protection Manager*. Mr. Hernandez responded to the email sent to Ms. Perkins on November 13, 2023 and stated the tribe requests monitors be present during the testing investigation. Dokken Engineering provided the Tribe with a proposed testing exhibit on December 4, 2023 and coordinated with the Tribal for monitoring. The final Cultural Resource Inventory Report was provided to the Tribe on February 5, 2024.

## Environmental Impacts

- a) **Less than Significant Impact.** No TCRs were identified during the consultation process with Native American Tribes, therefore, the project is not anticipated to cause a substantial adverse change in the significance of a TCR listed or eligible for listing in the California Register of Historical Resources, or in a local register of historic resources as defined by the Public Resource Code section 21074. However, with any project involving ground disturbance, there is a possibility that cultural resources may be unearthed during construction. This impact would be considered potentially significant. Implementation of measures **CR-1** through **CR-5** would reduce this impact to a less than significant level.
- b) **Less than Significant with Mitigation.** No TCRs were identified during the consultation process with Native American Tribes, therefore, the project is not anticipated to cause substantial adverse change to a TCR pursuant to criteria set forth by the Public Resource Code section 5024.1. Implementation of measures **CR-1** through **CR-5** would help reduce any impacts resulting from unforeseen discovery of any TCR during construction.

## Mitigation Measures

Measures **CR-1** through **CR-5** within section **V. Cultural Resources** will be implemented for any impacts relating to Tribal Cultural Resources.

<b>XIX. UTILITIES AND SERVICE SYSTEMS:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Less than Significant.** The project would result in the construction of a new groundwater well with a pipeline to deliver the water from the new well to the existing system. However, the pipeline would be used to improve the existing deteriorating well that is used as a source of drinking water. The project would not increase population in the project vicinity other than what was already planned for in the 2008 Solano County General Plan; therefore, the project would not result in any significant environmental effects.
- b) Less than Significant.** The project would result in the construction of a new groundwater well with a pipeline to deliver the water from the new well to the existing system. However, the pipeline would be used to improve the existing deteriorating well that is used as a source of

drinking water. No additional use would occur, other than what was previously planned for; therefore, the impact would be less than significant.

- c) **No Impact.** The project would not include the construction of any wastewater-generating uses. The project would not increase population in the project vicinity. There would be no additional wastewater flows as a result of the proposed project, and the project would not result in the need for new or expanded wastewater facilities; therefore, no impact would occur.
- d) **No Impact.** The Project would not generate solid waste during operation, and solid waste generated during construction would not be 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; therefore, no impact would occur.
- e) **No Impact.** Construction of the proposed project would result in minor amounts of solid waste that would be disposed of properly. The project would comply with all federal, state, and local management and reduction statutes and regulations related to solid waste; therefore, no impact would occur.

## **Mitigation Measures**

None.

<b>XX. WILDFIRE:</b> Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## **Affected Environment**

Based on maps produced by the California Department of Forestry and Fire Protection (CalFire 2022), the Project area is within a “Very High” Fire Hazard Severity Zone in a State Responsibility Area (SRA). An SRA is the area of the state where the State of California is financially responsible for the prevention and suppression of wildfires. SRAs do not include lands within city boundaries or in federal ownership.

- a) **No Impact.** The project would be constructed within agricultural farmlands and is not anticipated to require any road closures. Therefore, the project would not substantially impair an adopted emergency response plan or emergency evacuation plan and no impact would occur.
- b) **No Impact.** The project is located in a topographically flat agricultural area, and the project would not exacerbate wildfire risks due to slope, prevailing winds and other factors; therefore, no impact would occur., Emergency access would be maintained throughout

construction and, in the event of a fire, CalFire provides emergency fire services to the project area. No impact would occur.

- c) **No Impact.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system. It would not result in any installation or maintenance or associated infrastructure that may exacerbate fire risk or that may result in ongoing impacts to the environment; therefore, no impact would occur.
- d) **No Impact.** The project is located in a topographically flat agricultural area. Construction of the project would not expose people or structures to significant risks of downslope or downstream flooding, landslide or post-fire slope instability; therefore, no impact would occur.

<b>XIX. MANDATORY FINDINGS OF SIGNIFICANCE</b>	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) Less than Significant with Mitigation.** The project will utilize measures listed within Section IV and V to minimize and avoid potential impacts to Swainson's hawk and cultural resources. Construction would not have a cumulatively considerable contribution to the decline of Swainson's hawk habitat in the region. There are no known historic resources within the project area.
- b) Less than Significant.** The project is a new groundwater well with a pipeline to deliver the water from the new well to the existing system as part of the District's overall plan for provision of potable water within the vicinity of the project. It can be assumed the District will have probable future water transmission line projects. Construction of the proposed project along with other construction performed within the Solano Irrigation District would contribute to cumulative environmental impacts. However, the proposed project's contribution would be minimal. Therefore, impacts of the proposed project related to



cumulatively considerable impacts within Solano Irrigation District and Solano County are considered less than significant.

- c) **No Impact.** No substantial adverse effects on human beings, either directly or indirectly, are anticipated; therefore, no impact would occur.

### **Mitigation Measures**

Please see individual sections for related measures.

## **Federal Cross-Cutting Environmental Regulations Evaluation**

The proposed project is utilizing funds from the EPA's STAG Program; therefore, compliance with the National Environmental Policy Act (NEPA) is required. In order to comply with federal requirements for this program, this document includes analysis pertinent to several cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus). The basic rules for complying with cross-cutting federal authorities are set-out in the Clean Water State Revolving Fund regulations at 40 CFR § 35.3145 and in the Drinking Water State Revolving Fund regulations at 40 CFR § 35.3575.

This section describes the status of compliance with relevant federal laws, executive orders, and policies, and the consultation that has occurred to date or will occur in the near future. The topics are based in part on the SWRCB's CWSRF Program Federal Cross-cutting Environmental Regulations Evaluation Form for Environmental Review and Federal Coordination. The CWSRF Program is partially funded by the US EPA. Therefore, the SWRCB must document that projects meet the federal cross-cutters requirements.

## **FEDERAL ENGANGERED SPECIES ACT**

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

Section IV, Biological Resources, indicated one special-status animal species, Swainson's hawk (*Buteo swainsoni*), has the potential to occur within the project area; however, this species is not federally listed under Section 7 of the ESA. The project site does not contain suitable habitat for any federally listed special status plant or wildlife species. Land cover types within the project area include barren land cover and orchard habitat. No sensitive habitats and/or natural communities of special concern were observed within the project area during the biological survey conducted on July 5, 2023. The proposed construction activities would occur within regularly disturbed urban and orchard land cover areas. Thus, the project would not jeopardize listed species and the lead agency would be in compliance with the FESA.

## **NATIONAL HISTORIC PRESERVATION ACT, SECTION 106**

The National Historic Preservation Act of 1966 is the primary Federal legislation which outlines the Federal government's responsibility to cultural resources. More specifically, Section 106 of the NHPA and its implementing regulations located at 36 CFR Part 800, outline the Federal government's responsibility in identifying and evaluating cultural resources. Other applicable Federal cultural resources laws and regulations that could apply include, but are not limited to, the Native American Graves Protection and Repatriation Act (NAGPRA) and the Archaeological Resources Protection Act (ARPA).

Section 106 of the NHPA requires the Federal government to take into account the effects of an undertaking on cultural resources listed in and eligible for listing in the National Register of Historic Places (NRHP) and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment. Those resources that are listed or eligible for inclusion in the NRHP are referred to as historic properties. The 36 CFR Part 800 regulations describe the Section 106 process. They outline the steps the Federal agency takes to identifying cultural resources and the level of effect that the proposed undertaking will have on historic properties. An undertaking is defined as any:

"...project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency", including:

- A. Those carried out by or on behalf of the agency;
- B. Those carried out with Federal assistance;
- C. Those requiring a Federal permit, license, or approval; and
- D. Those subject to state or local regulation administered pursuant to a delegation or approval by a Federal agency [Section 301(7) 16 U.S.C. 470w(7)].

The initiation of an undertaking begins the Section 106 process. Once an undertaking is initiated, the Federal agency must first determine if the action is the type that has the potential to affect historic properties. If it is the type of action that has the potential to affect historic properties, the Federal agency must:

1. Identify the APE,
2. Determine if historic properties are present within the APE,
3. Determine the effect that the undertaking will have on historic properties, and
4. Consult with the appropriate State Historic Preservation Officer (SHPO) to seek concurrence on Federal agencies findings.

In addition, the Federal agency is required through the Section 106 process to consult with Native American Tribes concerning the identification of sites of religious or cultural significance, and to consult with individuals or groups who are entitled to be consulting parties or have requested to be consulting parties. If the undertaking would result in adverse effects to historic properties, these adverse effects must be resolved in consultation with the State Historic Preservation Officer and other parties identified during the Section 106 process before the undertaking can proceed to implementation.

#### National Register Criteria for Evaluation of Historic Resources

##### *Criteria for Evaluation*

The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- A. That are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. That are associated with the lives of significant persons in our past; or
- C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. That have yielded or may be likely to yield, information important in history or prehistory.

##### Criteria Considerations

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

- A. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or
- B. A building or structure removed from its original location, but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or
- C. A birthplace or grave of a historical figure of outstanding importance if there is no

- appropriate site or building associated with his or her productive life; or
- D. A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or
  - E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or
  - F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or
  - G. A property achieving significance within the past 50 years if it is of exceptional importance.

#### *Native American Consultation*

On October 11, 2023, a letter and map depicting the Project vicinity and location was sent to the Native American Heritage Commission (NAHC) to review the Sacred Land File (SLF) for any Native American cultural resources that might be affected by the proposed Project. On November 14, 2023, Pracilla Torres-Fuentes, Cultural Resource Analyst with the NAHC, informed via email that the SLF failed to indicate the presence of Native American resources within the Project area.

#### *Cultural Field Surveys*

On August 28, 2023, Dokken Engineering archaeologist Michelle Campbell, conducted a pedestrian surface survey of the entire APE. The surface survey was conducted via controlled transects spaced at no greater than 5 meters (16 feet). Surface visibility within the APE varied, ranging between 80 to 100 percent. Although paved areas had 0% visibility, adjacent exposed road shoulders or planting areas were surveyed. Particular attention was paid to de-vegetated surface exposures, as well as rodent burrows, cut banks and other exposed areas where the surface of anthropogenic soils are more likely to be observed. While the western portion of the APE primarily consists of a paved parking lot and the Lake Solano County Park recreational features, the eastern portion of consists of a privately owned walnut orchard.

Full results are disclosed in the confidential document *Cultural Resources Inventory Report for the Quail Canyon Improvement District Replacement Well and Pipeline Project, Solano County, California*. The pedestrian survey identified that the APE has been subject to extensive surface disturbance resulting from agricultural activity as well as from the construction of the parking lot and access road for Lake Solano County Park.

#### *Extended Phase I Excavation*

On December 12, 2023, an Extended Phase I (XPI) excavation was conducted by Dokken archaeologists Michelle Campbell, Namat Hosseinion and Gabrielle Zachoszaj to confirm the presence or absence of subsurface archaeological resources or deposits. XPI efforts include five trenches, 2.5 meters (8 feet) long by 0.75 meters (2.5 feet) wide by 1.5 meters (5 feet) deep. Seven test trenches were proposed; however, field conditions included several fallen trees within the APE which obstructed access to two of the proposed trench locations resulting in a total of five trenches. As a result of the XPI testing, no subsurface buried resources or occupational horizons were identified within the unpaved portion of the APE.

### *Archaeological Sensitivity*

Based on the occurrence of known resources in the vicinity, topographic considerations, and extant geoarchaeological information, the Project falls within an area of high sensitivity for archaeological resources.

Soils present in the APE are composed largely of deep, well-drained Corning gravelly series soils formed in alluvium derived from metamorphic and sedimentary rock as well as of flood deposits located adjacent to Punta Creek. Inspection of open surfaces, visible cut slopes, and drainage cut banks during the field survey, in addition to the XPI revealed no evidence of subsurface artifacts, features, or other indicators of past human use of other previously unidentified Indigenous or historic resources.

Although the archaeological sensitivity of the area is considered to be high, much or all of the vertical APE has been subject to past ground disturbance associated with agricultural activity and roadway development. These prior and ongoing surface disturbances frequently have two effects: 1) exposure of subsurface archaeological deposits via the disturbance itself, rendering resources easier to identify during surface survey, and 2) diminishing the potential that such resources would retain the integrity to qualify as a historical resource under §15064.5. With the information gained from the survey, XPI effort, and distance from previously recorded resources surrounding the APE, there is low potential to encounter significant historical or archaeological resources within the APE.

### **CLEAN AIR ACT**

The 1990 Amendment to FCAA Section 176 requires US EPA to promulgate rules to ensure that federal actions conform to the appropriate SIP. These rules, known as the General Conformity Rule (40 CFR Parts 51.850–51.860 and 93.150–93.160), require any federal agency responsible for an action in a federal nonattainment/maintenance area to demonstrate conformity to the applicable SIP, by either determining that the action is exempt from the General Conformity Rule requirements or subject to a formal conformity determination. Actions would be exempt, and thus conform to the SIP, if an applicability analysis shows that the total direct and indirect emissions of nonattainment/maintenance pollutants from project construction and operation activities would be less than specified emission rate thresholds. If not determined exempt, an air quality conformity analysis would be required to determine conformity.

The table below summarizes the project's total annual construction emissions and compares those to the applicable thresholds developed by the Yolo-Solano Air Quality Management District in the SVAB.

<b>Phase</b>	<b>PM<sub>10</sub> (lbs/day)</b>	<b>PM<sub>2.5</sub> (lbs/day)</b>	<b>CO (lbs/day)</b>	<b>NO<sub>x</sub> (lbs/day)</b>	<b>CO<sub>2</sub> (tons/phase)</b>
Grubbing/Land Clearing	10.00	2.08	<0.00	0.01	<0.00
Grading/Excavation	10.00	2.08	<0.00	0.02	<0.00
Drainage/Utilities/Sub-Grade	10.00	2.08	<0.00	0.01	<0.00
Paving	<0.00	<0.00	<0.00	0.01	<0.00

Project Total (tons/construction project)	0.75	0.16	<0.00	<0.00	<0.00
Yolo-Solano Air Quality Management District Daily Thresholds	80 lbs/day	N/A	Violation of a state ambient air quality standard for CO	10 tons/year	N/A
Exceed Threshold?	<b>No</b>	<b>N/A</b>	<b>No</b>	<b>No</b>	<b>N/A</b>

The project's criteria air pollutant emissions would not exceed the applicable thresholds. Therefore, the general conformity requirements do not apply to the project, and a formal conformity determination is not applicable to the project. Accordingly, the lead agency would be in compliance with the FCAA.

### **COASTAL ZONE MANAGEMENT ACT**

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

No portion of the proposed project is within the coastal zone. The project area is located approximately 30 miles northeast of the Pacific Coast. Therefore, the CMZA does not apply to the proposed project.

### **FARMLANDS PROTECTION POLICY ACT**

The Farmland Protection Policy Act (FPPA) requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The FPPA is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with State, local, and private programs and policies to protect farmland.

As described in Section II, Agriculture and Forestry Resources, the project corridor contains Prime Farmland. However, the proposed project will install a new groundwater well and a conveyance pipeline to deliver water from the new well to the existing system; thus, all areas of land temporarily affected would return to previous conditions and use. The project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, the proposed project would not adversely affect any farmland areas and the lead agency would be in compliance with the FPPA.

### **EXECUTIVE ORDER 11988 – FLOODPLAIN MANAGEMENT**

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

As described in Section X, Hydrology and Water Quality, the project corridor is not located within a 100-year Flood Hazard Area. As the proposed groundwater well and a conveyance pipeline would be located underground, they would not interfere with floodplain management or expose

people or structures to a significant risk of loss, injury or death involving flooding. As such, the lead agency would be in compliance with this EO.

#### **FEDERAL MIGRATORY BIRD TREATY ACT, BALD AND GOLDEN EAGLE PROTECTION ACT, AND EXECUTIVE ORDER 13168**

The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 is designed to assist Federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) (50 Code of Federal Regulations [CFR] 10 and 21) and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as “the action of or attempt to pursue, hunt, shoot, capture, collect, or kill” (50 CFR 10.12) and specifies intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

As described in Section IV, Biological Resources, the proposed project would have less than significant impact on nesting birds with implementation of Mitigation Measure BIO-1 if construction cannot be avoided during nesting season. Thus, the lead agency would be in compliance with this EO.

#### **EXECUTIVE ORDER 11990 – PROTECTION OF WETLANDS**

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

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

#### **WILD AND SCENIC RIVERS ACT**

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

There are no designated Wild and Scenic Rivers within the project area, nor would any designated rivers be adversely affected by the proposed project. As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

#### **SAFE DRINKING WATER ACT – SOURCE WATER PROTECTION**

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

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

#### **EXECUTIVE ORDER ON TRAILS FOR AMERICA IN THE 21<sup>ST</sup> CENTURY**

The EO on Trails for America (January 18, 2001) requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. According to the Solano County Active Transportation Plan, no trails exist in the vicinity of the project corridor (Solano County 2020). No other trail plans are applicable to the project area, and no trails have been identified within the project corridor in unincorporated Solano County. As a result, no adverse effects on trails would occur and the lead agency is in compliance with this EO.



## **EXECUTIVE ORDER 13007 – INDIAN SACRED SITES**

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

The proposed project would not be located on or impact any federal lands and therefore would not affect any Native American sacred sites under this EO.

## **MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT**

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976 as amended (16 U.S.C. § 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the 3-nautical-mile state territorial sea limit to the outer limit of the U.S. Exclusive Economic Zone. It establishes exclusive U.S. management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with NMFS on actions that could damage Essential Fish Habitat (EFH), as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

According to the NOAA habitat conservation Essential Fish Habitat View Tool, the Project area is within Essential Fish Habitat (EFH) for chinook salmon (*Oncorhynchus tshawytscha*) (NOAA 2023). The Project area does not include any aquatic habitat features; as such, no impacts to EFH are anticipated and consultation for EFH is not required. As described in Section IV, Biological Resources, the project is not expected to have adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area.

## **ENVIRONMENTAL JUSTICE**

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

### *Minority and Low Income Communities*

The project area resides in census tract 2529.03. According to US EPA guidelines, a minority population is present in a study area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. Demographics for this census tract, as provided in the United States Census Bureau's American Community Survey (ACS) estimates, indicate the population within the project area is approximately 83.2 percent white (non-minority) (U.S. Census 2020). Therefore, the area surrounding the project corridor does not have a minority population exceeding 50 percent.

US EPA guidelines recommend that analyses of low-income communities consider the United States Census Bureau's poverty level definitions, as well as applicable State and regional

definitions of lowincome and poverty communities. Poverty statistics in the project area show that population for whom poverty status is determined is 4,334. Approximately 6.7% of this population is below the poverty level. The State average of the population below poverty is approximately 12.6%.

The DWR defines a Disadvantaged Community (DAC) as a community with a median household income (MHI) less than 80 percent of the California MHI. The MHI for the project area, as provided in the U.S. Census Bureau's ACS estimates, is \$113,447. According to ACS data, the statewide MHI was also \$78,672 for the same time period. A DAC would therefore be a community with an MHI of \$62,937 or less. Therefore, the project area's MHI is greater than the threshold for a DAC, according to DWR's definition of low income/disadvantaged communities. (United States Census Bureau 2020).

# List of Preparers

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The following is a list of persons who participated in the Initial Study or prepared technical studies for this project.

## **Dokken Engineering**

Michelle Campbell, R.P.A, Senior Archaeologist. B.S. in Anthropology. Contribution: Cultural Resources Inventory Report.

Amy Bakker, Senior Environmental Planner. B.A. in Environmental Studies; Contribution: Environmental Document preparation.

Vincent Chevreuil, Environmental Planner/Biologist. B.S. in Biology; Contribution: Biological Resources Technical Report.

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## **Appendix A      Biological Resources Report**

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**Biological Resources Technical Report**

**Quail Canyon Improvement District Replacement  
Well and Pipeline Project**

**Solano County, California**



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**July 2023**

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## **List of Abbreviations**

°F	Fahrenheit
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CFR	Code of Federal Regulations
CNDDb	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
DPS	Distinct Population Segment
District	Solano Irrigation District
EFH	Essential Fish Habitat
EO	Executive Order
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
IPaC	Information for Planning and Consultation
ITP	Incidental Take Permit
LF	Linear Foot
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
Project	Quail Canyon Improvement District Replacement Well and Pipeline Project
PWS	Public Water System
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
STAG	State and Tribal Assistant Grant
U.S.	United States
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

## Summary

The Solano Irrigation District (District) proposes to construct a new groundwater well and conveyance pipeline for the Quail Canyon Public Water System (PWS) as part of the Quail Canyon Improvement District Replacement Well and Pipeline Project (Project). The Project is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California. A replacement well is necessary to reduce drought impacts of the failing well and to increase fire resiliency within the service area. The proposed well would consist of a new 300-foot-deep groundwater well with a 2,600 linear foot (LF), 10 or 12-inch diameter conveyance pipeline which will deliver water from the new well to the existing system. Construction of the Project would require excavators, dump trucks, and a drill rig. Staging and access for construction would occur in the Lake Solano County Park parking lot directly north of the proposed pipeline.

Updated literature research, habitat assessments, and biological surveys were conducted to determine the potential for special status species to occur within the Project area. Special status species include any plant or animal species listed by a state or federal agency or by one or more special interest groups, such as the California Native Plant Society (CNPS). Based on literature review, biological surveys, and habitat assessments, Swainson's hawk (*Buteo swainsoni*) is the only special status species with the potential to occur within the Project area. No impacts to state or federally listed species will occur as a result of this Project and no additional consultation or mitigation is required. In addition, no jurisdictional waters pursuant to the Clean Water Act (CWA) and the California Department of Fish and Wildlife (CDFW) are present within the Project area. As such, no environmental permits regarding jurisdictional waters are required.

The District is the California Environmental Quality Act (CEQA) lead agency. In addition, the project is receiving federal funding from the Environmental Protection Agency's (EPA's) State and Tribal Assistance Grant (STAG) program, and compliance with the National Environmental Policy Act (NEPA) is required. The EPA is the NEPA lead agency for the Project. The Project is expected to be fully constructed by the end of 2024.

## 1. Introduction

The District proposes to construct a new groundwater well and conveyance pipeline in unincorporated Solano County, California. The Project is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California (Figure 1. Project Vicinity; Figure 2. Project Location). The Project is located within the Mount Vaca 7.5-Minute United States Geological Survey (USGS) Quadrangle.

### 1.1 Project Description

The District owns and operates an existing public water system located in unincorporated Solano County north of the City of Vacaville, known as the Quail Canyon PWS (#CA4810012). The Quail Canyon PWS is one of the District's small rural public drinking water systems, and has a deteriorating well as its single source of water. A new well is necessary to reduce drought impacts of a failing well and increase fire resiliency within the service area.

The Project consists of installing and equipping a new 300-foot-deep groundwater well and an approximately 2,600 LF of 10 or 12-inch diameter conveyance pipeline to deliver water from the new well to the existing system (Figure 3. Project Features). Construction of the Project would require excavators, dump trucks, and a drill rig. Staging and access for construction would occur in the Lake Solano County Park parking lot directly north of the proposed pipeline. Construction is anticipated to start in the spring of 2024 and is anticipated to last approximately eight months.

The proposed Project is subject to compliance with CEQA, and the District is the CEQA lead agency. In addition, the project is utilizing federal funds from the EPA's STAG Program and compliance with NEPA is required. The EPA is the NEPA lead agency.





Source: ESRI World Street Maps Online; Dokken Engineering 6/12/2024; Created By: astorck

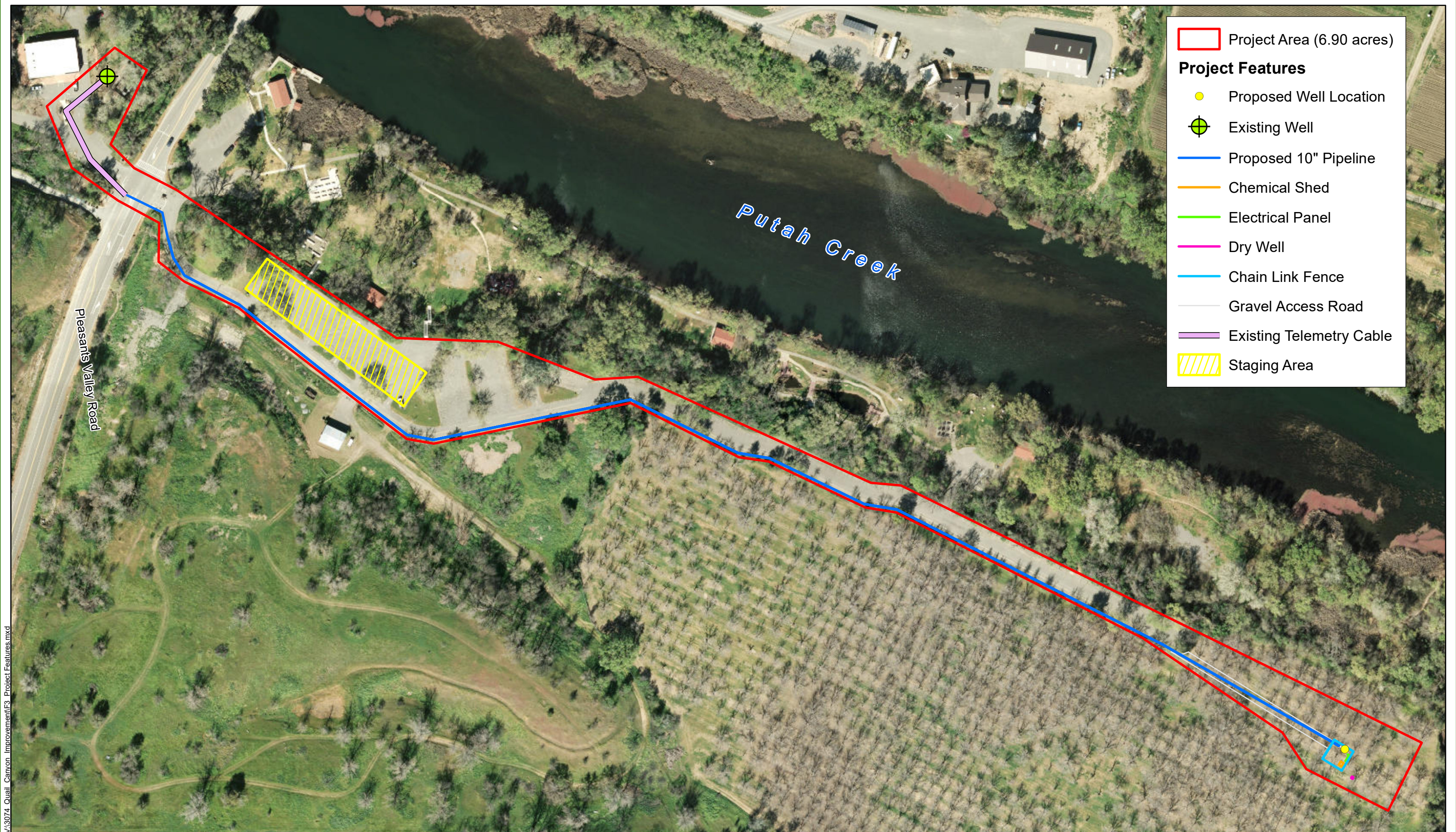


0 0.5 1 1.5 2 Miles

**FIGURE 2**  
**Project Location**

Quail Canyon Improvement Project  
Solano County, California





Project Area (6.90 acres)

**Project Features**

Proposed Well Location

Existing Well

Proposed 10" Pipeline

Chemical Shed

Electrical Panel

Dry Well

Chain Link Fence

Gravel Access Road

Existing Telemetry Cable

Staging Area

V:\3074 Quail Canyon Improvement\F3 Project Features.mxd

Source: ESRI Maps Online; Dokken Engineering 6/12/2024; Created By: astorck

1 inch = 158.33 feet

0

150

300

450

600

750

Feet

**Figure 3**  
**Project Features**

Quail Canyon Improvement District Replacement Well and Pipeline Project  
Solano County, California



## 2. Study Methods

### 2.1 Regulatory Requirements

This section describes the general federal, state, and local plans, policies, and laws that are relevant to biological resources within the Project area. Applicable approvals that could be required before construction of the Project are provided in Chapter 5.

#### 2.1.1 Federal Regulations

##### Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 [16 United States Code (U.S.C.) section 1531 et seq.] provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by the United States (U.S.) Fish and Wildlife Service (USFWS).

##### Clean Water Act

The CWA was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. Environmental Protection Agency (EPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or routine maintenance site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is CWA's primary regulatory tool.

The Regional Water Quality Control Board (RWQCB) has jurisdiction under Section 401 of CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with those of U.S. Army Corps of Engineers (USACE) (i.e., waters of the U.S. including any wetlands). The RWQCB also asserts authority over "Waters of the State" under waste discharge requirements pursuant to the Porter-Cologne Water Quality Control Act.

##### Executive Order 13112: Prevention and Control of Invasive Species

Executive Order (EO) 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and environmentally sound manner. The EO requires consideration of invasive species in the NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

### Executive Order 13186: Migratory Bird Treaty Act

EO 13186 (signed January 10, 2001) directs each federal agency taking actions that could adversely affect migratory bird populations, to work with USFWS to develop a Memorandum of Understanding that will promote the conservation of migratory bird populations. Protocols developed under the Memorandum of Understanding will include the following agency responsibilities:

- Avoid and minimize, to the maximum extent practicable, adverse impacts on migratory bird resources when conducting agency actions;
- Restore and enhance habitat of migratory birds, as practicable; and
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the Migratory Bird Treaty Act (MBTA) [50 Code of Federal Regulations (CFR) 10 and 21] and does not constitute any legal authorization to take migratory birds. Take is defined under the MBTA as “the action of or attempt to pursue, hunt, shoot, capture, collect, or kill” (50 CFR 10.12) and includes intentional take (i.e., take that is the purpose of the activity in question) and unintentional take (i.e., take that results from, but is not the purpose of, the activity in question).

### **2.1.2 State Regulations**

#### California Environmental Quality Act

The CEQA is a state law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The District is the CEQA lead agency for this Project.

#### California Endangered Species Act

The California Endangered Species Act (CESA) [California Fish and Game (CFG) Code Section 2050 et seq.] requires the CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating Incidental Take Permit (ITP) applications [CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.], and the potential impacts the project or activity, for which the application was submitted, may have on the environment. CDFW’s CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an ITP if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)].

### Section 3503 and 3503.5: Bird and Raptors

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

### Section 3513: Migratory Birds

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the MBTA or any part of such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

## **2.1.3 Local Regulations**

### County of Solano General Plan

The County of Solano General Plan's conservation strategy focuses on protecting and enhancing the county's natural habitats and diverse plant and animal communities, particularly occurrences of special-status species, wetlands, sensitive natural communities, and habitat connections. Proper implementation of the General Plan's Best Management Practices (BMPs) will reduce potential Project impacts to sensitive habitats and the preservation of native community elements in accordance with the General Plan.

## **2.2 Studies Required**

### **2.2.1 Literature Search**

Prior to field work, literature research was conducted through the USFWS Information for Planning and Consultation (IPaC) official species list generator (Appendix A. USFWS Species List), the CDFW California Natural Diversity Database (CNDDB) (Appendix B. CNDDB Species List), the CNPS Electronic Inventory of Rare and Endangered Plants (Appendix C. CNPS Species List), and the National Marine Fisheries Service (NMFS) West Coast Region Species List (Appendix D. NMFS Species List) to identify habitats and special-status species having the potential to occur within the Project area. Section 3.2 of this report provides a comprehensive list of the species generated from the online database searches and presents specific characteristics, habitat requirements, and potential for occurrence for each species.

### **2.2.2 Survey Methods**

Prior to field surveys, the Project area was defined as the Project impact area to facilitate construction access and capture potential biological resources adjacent to Project limits. Habitat assessment and analysis of historic occurrences were conducted to determine the potential for each of these species to occur within the Project area.

Biological surveys and habitat assessment methods included walking meandering transects through the entire Project area, observing vegetation communities, compiling notes on observed flora and fauna, and assessing the potential for existing habitat to support sensitive plants and wildlife. All plant and wildlife observations were recorded and are discussed in Chapter 3.

### **2.2.3 Personnel and Survey Dates**

A biological field survey was conducted on July 5, 2023, by Dokken Engineering biologist Vincent Chevreuil. Habitat assessments were conducted within the Project area to assess the vegetative communities present, identify biological resources which may be impacted by the Project, and evaluate the potential for special status species to occur on-site.

## **2.3 Agency Coordination and Professional Contacts**

### **2.3.1 United States Fish and Wildlife Service**

On July 10, 2023, an official species list was obtained from USFWS of federally listed species that could occur in the vicinity of the Project (Appendix A).

### **2.3.2 California Department of Fish and Wildlife**

On July 10, 2023, a four-quadrangle list of species with potential to occur in the Project vicinity was obtained from CDFW's CNDDDB (Appendix B).

### **2.3.3 California Native Plant Society**

On July 10, 2023, a four-quadrangle list of plant species with potential to occur in the Project vicinity was obtained from the CNPS Inventory of Rare and Endangered Plants of California (Appendix C).

## **2.4 Limitations That May Influence Results**

Sensitive wildlife species with the potential to occur in the Project area may be cryptic (difficult to detect) or transient, migratory species. The population size and locations of sensitive species may fluctuate through time. Because of this, the data collected for this biological resource technical report represents a "snapshot" in time and may not reflect actual future conditions.

The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations imposed by the environment. However, due to the experience and qualifications of the consulting biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings. Furthermore, biological surveys were conducted in April, which is the typical season when plant species are blooming, and animal species are more active.

No additional limitations were present that could influence the results of this document. All surveys were conducted during appropriate weather and temperature conditions.

### 3. Results: Environmental Setting

#### 3.1 Description of the Existing Biological and Physical Conditions Study Area

##### 3.1.1 Study Area

Prior to field surveys, the Project area was defined as the area required for the staging, access, and construction of the Project. The Project area measures approximately 2,500 feet wide and measures approximately 200 feet from north to south at its widest point. The total acreage of the Project area is approximately 6.90 acres (Figure 3. Project Features).

##### 3.1.2 Physical Conditions

Regionally, the Project area is located east of Pleasants Valley Road and south of Putah Creek, near the northern border of Solano County, California. This Project is located within the Sacramento Valley Floristic Province (Jepson 2023). Solano County experiences Mediterranean conditions including warm, dry summers and cool, wet winters. The average annual high temperature is approximately 77 degrees Fahrenheit (°F), and the average annual lows reach approximately 50°F, with up to 24.13 inches of precipitation annually (U.S. Climate Data 2023). The elevation of the Project area is approximately 150 feet above mean sea level. The soil types within the Project area include Yolo loam, 0 to 4 percent slopes, MLRA 17 (92.5% of Project area) and Riverwash (Natural Resource Conservation Service [NRCS] 2023; Appendix E. NRCS Soil Report).

##### 3.1.3 Biological Conditions in the Study Area

Plant and wildlife species observed within the Project area during the July 2023 biological survey efforts were used to define land cover types based on composition, abundance, and cover (Table 1. Species Observed). No natural habitat communities are present within the Project area, which is comprised of barren land cover and an orchard (Figure 4. Vegetation Communities; Appendix F. Representative Photographs). Each land cover type is described below.

##### Barren

The Project area encompasses a small portion of Pleasants Valley Road, the parking lot for the Lake Solano County Park, and an access road that runs parallel to Putah Creek. The parking lot includes vegetated concrete planters with red mulberry (*Morus rubra*) trees; however, this land cover type is mostly paved and devoid of vegetation. No natural communities exist within this area. Barren land cover comprises approximately 2.57 acres (38%) of the Project area.

##### Orchard

An orchard of English walnut (*Juglans regia*) trees occurs in the southeastern extent of the Project area. This is a deciduous orchard with uniform spacing between trees and an open understory to facilitate harvest. No natural communities exist within this area and the orchard is regularly disturbed. However, this land cover type has the potential to support wildlife species such as migratory birds and small mammals such as California ground squirrels (*Otospermophilus beecheyi*). The English walnut orchard habitat comprises approximately 4.33 acres (62%) of the Project area.

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V:\3074 Quail Canyon Improvement\Biology\F4\_Veg Comm.mxd

Source: ESRI Maps Online; Dokken Engineering 5/9/2024; Created By: kjacobson



1 inch = 175 feet



**Figure 4**  
**Vegetation Communities**  
Quail Canyon Improvement District Replacement Well and Pipeline Project  
Solano County, California





**Table 1. Species Observed**

Common Name	Scientific Name	Native (N) / Non-Native (X) <sup>1</sup>
<b>Plant Species</b>		
Bermuda grass	<i>Cynodon dactylon</i>	X [Moderate]
Bull thistle	<i>Cirsium vulgare</i>	X [Moderate]
Clover	<i>Trifolium sp.</i>	N
English walnut	<i>Juglans regia</i>	X
Field bindweed	<i>Convolvulus arvensis</i>	X
Interior live oak	<i>Quercus wislizeni</i>	N
Northern California black walnut	<i>Juglans hindsii</i>	N
Panicled willowherb	<i>Epilobium brachycarpum</i>	N
Red mulberry	<i>Morus rubra</i>	X
Valley oak	<i>Quercus lobata</i>	N
Wall barley	<i>Hordeum murinum ssp. murinum</i>	X
<b>Wildlife Species</b>		
Acorn woodpecker	<i>Melanerpes formicivorus</i>	N
American crow	<i>Corvus brachyrhynchos</i>	N
Barn swallow	<i>Hirundo rustica</i>	N
California ground squirrel	<i>Otospermophilus beecheyi</i>	N
California scrub-jay	<i>Aphelocoma californica</i>	N
Canada goose	<i>Branta canadensis</i>	N
European starling	<i>Sturnus vulgaris</i>	N
Mourning dove	<i>Zenaida macroura</i>	N
Nuttall's woodpecker	<i>Picoides nuttallii</i>	N
Oak titmouse	<i>Baeolophus inornatus</i>	N
Red-tailed hawk	<i>Buteo jamaicensis</i>	N
Spotted towhee	<i>Pipilo maculatus</i>	N

<sup>1</sup>California Invasive Plant Council Rating

### Wildlife

Wildlife observed within the Project area consisted of local bird species such as acorn woodpecker (*Melanerpes formicivorus*), California scrub-jay (*Aphelocoma californica*), and oak titmouse (*Baeolophus inornatus*). In addition, California ground squirrels were observed within the English walnut orchard in the Project area.

### Habitat Connectivity

The CDFW Biogeographic Information & Observation System (CDFW 2023a) was reviewed to determine if the Project area is located within an Essential Connectivity Area. The Project area is within an area of Terrestrial Connectivity Rank 4 – Conservation Planning Linkages. This ranking indicates that there are habitat connectivity linkages between core natural areas in the vicinity of the Project area. These linkages have more flexibility compared to irreplaceable and essential corridors. Although the Project is mapped within a conservation linkage area, the Project itself would not permanently impact natural habitats in a way that would impair terrestrial movement by wildlife; therefore, the Project would not impact habitat connectivity.

### **3.2 Regional Species and Habitats and Natural Communities of Concern**

Plant and animal species have special status if they have been listed as such by federal or state agencies or by one or more special interest groups, such as CNPS.

Prior to the field survey, literature searches were conducted using USFWS IPaC, CDFW CNDDb, CNPS, and NMFS databases to identify regionally sensitive species with potential to occur within the Project area. Table 2. Special Status Species with Potential to Occur in the Project Vicinity provides an updates list of regional special status species returned by the database searches, describes the habitat requirements for each species, and states if the species has potential to occur within the Project area. There are two plant species and twelve wildlife species with the potential to occur within the Project vicinity returned by the database searches. None of the fourteen special status species have the potential to occur within the Project area due to lack of suitable habitat.

Table 2. Special Status Species with Potential to Occur in the Project Vicinity

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Amphibian Species						
California tiger salamander	Ambystoma californiense pop. 1	Fed: State: CDFW:	T T WL	Inhabits annual grasslands, oak savannah, mixed woodland edges, and lower elevation coniferous forest. Requires underground refuges, especially ground squirrel burrows, vernal pools, or other seasonal water sources for breeding. Breeding occurs December through February in fish-free ephemeral ponds.	A	Presumed Absent: Ground squirrel burrows were observed throughout the Project area; however, the Project area does not include vernal pools or other seasonal water sources necessary for breeding. There are also no documented CNDDDB occurrences within 10 miles of the Project area. Due to lack of necessary habitat features and with no local occurrences, this species is presumed absent from the Project area.
Foothill yellow-legged frog - north coast DPS	Rana boylei pop. 1	Fed: State: CDFW:	-- -- SSC	Inhabits shallow streams and riffles with rocky substrate and open, sunny banks in a variety of habitats including chaparral and woodland forests. Tadpoles require water for at least three or four months to complete development. Breeds March to May, with eggs laid in clusters on the downstream side of rocks in shallow, slow-moving water, attached to rocks, pebbles, and vegetation. Occurs from elevations near sea level to 6,700 feet.	A	Presumed Absent: There are numerous historic CNDDDB occurrences within the Putah Creek corridor upstream of the Project area; however, the Project area does not include suitable stream channel or upland dispersal habitat that could support this species. Despite local historic occurrences, the species is presumed absent due to a lack of necessary habitat features.
Bird Species						
Northern spotted owl	Strix occidentalis caurina	Fed: State: CDFW:	T T --	Inhabits with dense canopy closure of mature and old-growth trees, abundant logs, standing snags and live trees with broken tops. Their nesting season is generally from February- June and usually mate for life. The species nests in the tops of trees or in cavities of naturally deformed or diseased trees forests. This species historically inhabited	A	Presumed Absent: The Project area encompasses orchard and barren land cover types and lacks dense-canopied forest habitat that could support nesting individuals of this species. There are also no documented CNDDDB occurrences within 10 miles of the Project area. Due to lack of suitable nesting habitat, this species is presumed absent from the Project area.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				forests throughout British Columbia, western Washington and Oregon, and northwestern California; however much of their habitat has been negatively impacted by timber harvesting and land conversions.		
Swainson's hawk	<i>Buteo swainsoni</i>	Fed: State: CDFW:	-- T --	Inhabits grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, alfalfa or grain fields that support a stable rodent prey base. Breeds March to late August.	A	<b>Low Potential:</b> There is a recent (2015) CNDDDB occurrence of this species near Winters, CA, approximately 4 miles northeast of the Project. The Project area does not encompass suitable nesting or foraging habitat for this species; however, the Project is situated adjacent to a riparian corridor that may provide suitable habitat. As such, the species may have a low potential to incidentally occur within the Project area.
Yellow-breasted chat	<i>Icteria virens</i>	Fed: State: CDFW:	-- -- SSC	An uncommon summer resident of coastal California and in foothills of the Sierra Nevada, arriving in April and departing by late September. Requires riparian thickets of willow and other brushy tangles near watercourses for nesting and foraging. Nests in dense shrubs along streams and rivers. Breeds from May-August.	A	<b>Presumed Absent:</b> The Project area lacks willow thickets or other dense riparian shrubs utilized for nesting by members of this species. There is one historic CNDDDB occurrence approximately one mile southwest of the Project area (1987). However, due to lack of suitable habitat within the Project area, this species is presumed absent.
<b>Invertebrate Species</b>						
California freshwater shrimp	<i>Syncaris pacifica</i>	Fed: State: CDFW:	E E --	The species inhabits a broad range of stream and water temperature conditions characteristic of small, perennial coastal streams found only in low elevations (less than 380 feet). Habitat conditions include streams twelve to thirty six inches deep with exposed live roots of trees such as alders and willow along undercut banks greater than six inches, with	A	<b>Presumed Absent:</b> The Project area does not encompass stream channel habitat that could support this species. The species is presumed absent due to the lack of necessary habitat features.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				overhanging woody debris or stream vegetation. Current known range limited to tributary streams in the lower Russian River, coastal streams flowing west directly to the Pacific Ocean, streams draining to Tomales Bay, and streams flowing southward into northern San Pablo Bay.		
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	Fed: State: CDFW:	E -- --	Inhabits relatively large and turbid clay bottomed playa vernal pools. Species requires pools to continuously hold water for a minimum of nineteen days and must remain inundated into the summer months. Occupied playa pools typically are oneto 88 acres in size, but species may utilize smaller, less turbid pools. Juveniles are most abundant where there are deep (0.5 to 1+ m), well-shaded pools with plenty of overhead cover.	A	<b>Presumed Absent:</b> The Project area lacks clay bottomed playa vernal pools. There are also no documented CNDDB occurrences within 10 miles of the Project area. Due to lack of suitable habitat, this species is presumed absent from the Project area.
Monarch – California overwintering population	<i>Danaus plexippus</i> pop. 1	Fed: State: CDFW:	C -- --	Winter roosts along the coast from northern Mendocino to Baja California. Utilizes wind protected tree groves in proximity to nectar and water sources. Host plants include milkweed species such as <i>Asclepias syriaca</i> , <i>A. incarnata</i> , and <i>A. speciosa</i> . Suitable habitat includes fields, meadows, weedy areas, marshes, and roadsides. Mass adult migrations occur from August to October.	A	<b>Presumed Absent:</b> The Project area does not encompass suitable field, meadow, or marsh habitat. Furthermore, the host plants for this species were not observed during the biological survey conducted on July 5, 2023. There are no documented CNDDB occurrences within 10 miles of the Project area. Due to lack of suitable habitat and with no local occurrences, this species is presumed absent from the Project area.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	Fed: State: CDFW:	T -- --	Species requires red or blue elderberry ( <i>Sambucus</i> sp.) as host plants. Typically occurs in moist valley oak woodlands associated with riparian corridors in the lower	A	<b>Presumed Absent:</b> The Project area does not include woodland or riparian habitat that could support this species. In addition, no elderberry shrubs were observed within the Project area during

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				Sacramento River and upper San Joaquin River drainages. Adults are active, feeding, and breeding from March until June (sea level-3,000 feet).		the biological survey conducted on July 5, 2023. The species is presumed absent from the Project area due to a lack of necessary habitat features.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	Fed: State: CDFW:	T -- --	In California, species inhabits portions of Tehama County, south through the Central Valley, and scattered locations in Riverside County and the Coast Ranges. Species is associated with smaller and shallower cool-water vernal pools approximately six inches deep and short periods of inundation. In the southernmost extremes of the range, the species occurs in large, deep cool-water pools. Inhabited pools have low to moderate levels of alkalinity and total dissolved solids. The shrimp are temperature sensitive, requiring pools below 50 F to hatch and dying within pools reaching 75 F. Young emerge during cold-weather winter storms.	A	<b>Presumed Absent:</b> The Project area lacks vernal pools, which are necessary to support this species. The species is presumed absent due to a lack of necessary habitat features.
Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	Fed: State: CDFW:	E -- --	Inhabits vernal pools and swales containing clear to highly turbid waters such as pools located in grass bottomed swales of unplowed grasslands, old alluvial soils underlain by hardpan, and mud-bottomed pools with highly turbid water.	A	<b>Presumed Absent:</b> The Project area lacks vernal pools or swales which are necessary to support this species. The species is presumed absent due to a lack of necessary habitat features.
<b>Reptile Species</b>						
Western pond turtle	<i>Emys marmorata</i>	Fed: State: CDFW:	-- -- SSC	A fully aquatic turtle of ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with aquatic vegetation. Suitable habitat includes	HP	<b>Presumed Absent:</b> There is one recent (2015) CNDDDB occurrence of this species within Putah Creek, approximately four miles downstream of



Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				woodland, forests, and grasslands. Requires logs, rocks, cattail mats, and exposed banks for basking. Suitable upland habitat (sandy banks or grassy open field) is required for reproduction, which begins in April and ends with egg laying as late as August (sea level to 4,700 feet).		the Project area. However, the Project area does not encompass any suitable aquatic habitat or upland basking habitat, which is a requirement for this species. Due to the absence of locally suitable habitat, the species is presumed absent from the Project area.
<b>Plant Species</b>						
Brewer's western flax	<i>Hesperolinon breweri</i>	Fed: State: CNPS:	-- -- 1B.2	An annual herb endemic to California, inhabiting serpentine soils in chaparral, valley and foothill grassland, cismontane woodland, and foothill woodland communities. Common in Contra Costa, Napa, and Solano counties. Flowers May-July (100-3,100 feet).	A	<b>Presumed Absent:</b> The Project area consists of highly disturbed orchard and barren land cover that does not provide suitable habitat for this species. The nearest documented CNDDDB occurrence of this species is approximately four miles northeast of the Project area, near Lake Berryessa. Due to lack of suitable habitat and with no recent or local occurrences, this species is presumed absent.
Keck's checkerbloom	<i>Sidalcea keckii</i>	Fed: State: CNPS:	E -- 1B.1	An annual herb inhabiting serpentine and clay soils on grassy slopes within cismontane woodland, valley and foothill grassland communities. Flowers April-May (250-2,130 feet).	A	<b>Presumed Absent:</b> There is a historic (1965) CNDDDB occurrence of this species within the Project area. However, the Project area now consists of highly disturbed orchard and barren land cover that does not provide suitable habitat for this species. As such, the species is presumed absent from the Project area due to a lack of locally suitable habitat.

<b>Federal Designations (Fed):</b> (FESA, USFWS) <b>E:</b> Federally listed, endangered <b>T:</b> Federally listed, threatened <b>DL:</b> Federally listed, delisted	<b>State Designations (CA):</b> (CESA, CDFW) <b>E:</b> State-listed, endangered <b>T:</b> State-listed, threatened
<b>Other Designations</b> CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected  <b>California Native Plant Society (CNPS) Designations:</b> <i>*Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.</i> <b>1A:</b> Plants presumed extinct in California. <b>1B:</b> Plants rare and endangered in California and throughout their range. <b>2:</b> Plants rare, threatened, or endangered in California but more common elsewhere in their range. <b>3:</b> Plants about which need more information; a review list.  <b>Plants 1B, 2, and 4 extension meanings:</b> _.1 <b>Seriously</b> endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) _.2 <b>Fairly</b> endangered in California (20-80% occurrences threatened) _.3 Not very endangered in California (<20% of occurrences threatened or no current threats known)	
<b>Habitat Potential</b> Absent [A] - No habitat present and no further work needed. Habitat Present [HP] - Habitat is or may be present. The species may be present. Critical Habitat [CH] – Project is within designated Critical Habitat.	
<b>Potential for Occurrence Criteria:</b> <b>Present:</b> Species was observed on site during a site visit or focused survey. <b>High:</b> Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site. <b>Low:</b> Low quality habitat (may include soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site <b>Moderate:</b> Suitable habitat strongly associated with the species occurs on site, but no records were found within the database search. <b>Presumed Absent:</b> Focused surveys were conducted, and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.	
<b>Source:</b> (CDFW 2023b), (CNPS 2023), (Calflora 2023), (Jepson 2023), (USFWS 2023).	

## **4. Results: Biological Resources, Discussion of Impacts, and Mitigation**

### **4.1 Habitats and Natural Communities of Special Concern**

Land cover types within the Project area include barren land cover and orchard habitat. No sensitive habitats and/or natural communities of special concern were observed within the Project area during the biological survey conducted on July 5, 2023 (Figure 4. Vegetation Communities). As such, no impacts to sensitive natural communities will result from the construction of this Project.

### **4.2 Special-Status Plant Species**

Prior to field surveys, a list of regional special status plant species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the Project area was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the Project area. After a careful comparison between habitat requirements and the habitat available within the Project area, no special status plants were determined to have potential to occur and no Project-related impacts to special status plant species are anticipated.

### **4.3 Special-Status Wildlife Species**

Prior to field surveys, a list of regional special-status wildlife species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the Project area was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the Project area. After a careful comparison between habitat requirements and the habitat available within the Project area, Swainson's hawk (*Buteo swainsoni*) is the only special status wildlife species that may occur within the Project area.

#### **4.3.1 Discussion of Swainson's Hawk**

The Swainson's hawk is a raptor species that is state listed as threatened. Swainson's hawk migrates annually from wintering areas in South America to breeding locations in northwestern Canada, the western U.S., and Mexico. In California, Swainson's hawk nest throughout the Sacramento and San Joaquin Valley in large trees in riparian habitats and in isolated trees in or adjacent to agricultural fields. The breeding season extends from late March through late August, with peak activity from late May through July (England et al. 1997). Swainson's hawks forage in large, open agricultural habitats, including alfalfa and hay fields. The breeding population in California has declined by an estimated 91% since 1900; this decline is attributed to the loss of riparian nesting habitats and the conversion of native grassland and woodland habitats to agriculture and urban development (CDFW 1994).

The Project area does not encompass suitable Swainson's hawk nesting or foraging habitat. However, the Project is located adjacent to the riparian corridor of Putah Creek, which is known to support nesting individuals of this species. In addition, there is a recent (2016) CNDDDB occurrence of this species located approximately 4 miles northeast of the Project. Due to the recent, local CNDDDB occurrence as well as the Project's proximity to a suitable riparian corridor, the species may have a low potential to incidentally occur within the Project area.

### Project Impacts to Swainson's Hawk

Project impacts would occur within regularly disturbed urban and orchard land cover areas. No impacts to Swainson's hawk nesting or foraging habitat will result from the construction of this Project. With the implementation of the appropriate avoidance and minimization measure BIO-1, no take of this species is expected.

### Avoidance and Minimization Efforts for Swainson's Hawk

With the implementation of the following avoidance and minimization measure, no impacts to Swainson's hawk are anticipated to result from this Project:

**BIO-1:** Should work or vegetation removal occur within the nesting season (February 1 to August 31), the Project biologist must conduct a pre-construction survey for nesting migratory birds. The pre-construction survey shall be performed by a qualified biologist to determine the presence of nesting birds and ensure active nests are not directly or indirectly impacted during construction. The pre-construction survey area will include the limits of the project impact area plus a 250-ft buffer. No take of nesting birds is permitted by this project; if an active nest is found, the perimeter will be flagged and a qualified biologist will coordinate with the appropriate wildlife agency to determine an appropriate buffer distance and minimization measures (e.g. monitoring) to avoid take of the nest.

## 5. Conclusions and Regulatory Determinations

### 5.1 Federal Endangered Species Act Consultation Summary

Prior to field survey, a list of eight federally threatened or endangered species were returned via database searches. The potential for each species to occur within the Project area was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the Project area. Overall, none of the federally listed species have potential to occur within the Project area due to lack of suitable habitat. As such, no impacts to federally listed species are anticipated and consultation with USFWS is not required.

### 5.2 Essential Fish Habitat Consultation Summary

According to the NOAA habitat conservation Essential Fish Habitat View Tool, the Project area is within Essential Fish Habitat (EFH) for chinook salmon (*Oncorhynchus tshawytscha*) (NOAA 2023). The Project area does not include any aquatic habitat features; as such, no impacts to EFH are anticipated and consultation for EFH is not required.

### 5.3 California Endangered Species Act Consultation Summary

Prior to field surveys, a list of regional special-status wildlife species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the Project area was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the Project area. After a careful comparison between habitat requirements and the habitat available within the Project area, Swainson's hawk is the only state listed species with the potential to occur within the Project area. With the implementation of avoidance and minimization measure BIO-1, no impacts to this species are anticipated to result from the construction of this Project. As such, consultation with CDFW regarding state listed species is not required.

### 5.4 Wetlands and Other Waters Coordination Summary

Land cover types within the Project area include barren land cover and orchard habitat. No wetlands or other jurisdictional water features were observed within the Project area during the biological survey conducted on July 5, 2023 (Figure 4. Vegetation Communities). As such, the Project will not have impacts to jurisdictional waters and regulatory permits regarding jurisdictional waters are not required.

### 5.5 Invasive Species

In February 1999, EO 13112 was signed, requiring federal agencies to work on preventing and controlling the introduction and spread of invasive species. Measure BIO-2 will be incorporated into the Project plans to ensure that invasive species are not introduced or spread.

**BIO-2:** Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

## 5.6 Other

### 5.6.1 Best Management Practices

To minimize and avoid potential environmental impacts of construction, the following measure BIO-3 has been incorporated into the Project design.

**BIO-3:** BMPs will be incorporated into Project design and Project management to minimize impacts on the environment including erosion and the release of pollutants (e.g., oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction activities such as traffic and grading activities;
- All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures, and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All construction materials would be hauled off-site after completion of construction.

### 5.6.2 General Wildlife

To minimize and avoid potential effects to local wildlife, the following measures BIO-4 through BIO-6 have been incorporated into the Project design.

**BIO-4:** All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.

**BIO-5:** The contractor must not apply rodenticide or herbicide within the Project area during construction.

**BIO-6:** If any wildlife is encountered during the course of construction, said wildlife shall be allowed to leave the construction area unharmed.

### 5.6.3 Migratory Birds

Native birds are protected by the MBTA and CFG Code Section 3513. The implementation of measure **BIO-1** would avoid all potential impacts to migratory birds.

## 6. References

- Calflora 2023      Calflora. 2023. Plants of California. Available at: <<http://www.calflora.org/>> (accessed: July 10, 2023).
- CDFW 1994      California Department of Fish and Wildlife. 1994. Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley of California.
- CDFW 2023a      California Department of Fish and Wildlife. 2023. Biogeographic Information and Observation System. Available at: <<https://wildlife.ca.gov/Data/BIOS>> (accessed: July 11, 2023).
- CDFW 2023b      California Department of Fish and Wildlife. 2023. California Natural Diversity Database. Available at: <<http://www.dfg.ca.gov/biogeodata/cnddb/>> (accessed: July 10, 2023).
- CNPS 2023      California Native Plant Society. 2023. Inventory of Rare and Endangered Plants. Available at: <<http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/BrowseAZ?name=quad>> (accessed: July 10, 2023).
- England et. al 1997      England, A. S., M. J. Bechard, and C. S. Houston. 1997. Swainson's Hawk (*Buteo swainsoni*). In *The Birds of North America*, No. 265 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.
- Jepson 2023      Jepson eFlora. 2023. Geographic Subdivisions of California. Available at: <<http://ucjeps.berkeley.edu/eflora/geography.html>> (accessed: July 11, 2023).
- NOAA 2023      National Oceanic and Atmospheric Administration. Habitat Conservation Essential Fish Habitat View Tool for Chinook Salmon. Available at: <<https://www.habitat.noaa.gov/apps/efhmapper/>> (accessed July 11, 2023).
- NRCS 2023      Natural Resource Conservation Service. 2023. Custom Soil Resources Report for Solano County, California. Available at: <<https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>> (accessed July 21, 2023).
- U.S. Climate Data 2023      U.S. Climate Data. 2023. Winters Weather Averages. Available at: <<https://www.usclimatedata.com/climate/winters/california/united-states/usca1252>> (accessed: July 11, 2023).
- USFWS 2023      United States Fish and Wildlife Service. 2023. Official Species List: U.S. Department of the Interior – Fish and Wildlife Service: Sacramento Fish and Wildlife Office. Project Code 2023-0102722 (requested: July 10, 2023).



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## Appendix A: USFWS Species List

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## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

July 10, 2023

Project Code: 2023-0102722

Project Name: Quail Canyon Well Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)).

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

---

Attachment(s):

- Official Species List

## OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Sacramento Fish And Wildlife Office**

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

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## PROJECT SUMMARY

Project Code: 2023-0102722

Project Name: Quail Canyon Well Project

Project Type: Water Supply Pipeline - New Constr - Below Ground

Project Description: Overall, the project consists of installing and equipping a new 300-foot-deep groundwater well and a 3,500 linear foot (LF) 10 or 12-inch diameter conveyance pipeline to deliver water from the new well to the existing system.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@38.4908887,-122.0245679,5848386,14z>



Counties: Solano County, California

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## ENDANGERED SPECIES ACT SPECIES

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## BIRDS

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a>	Threatened

## AMPHIBIANS

NAME	STATUS
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2076">https://ecos.fws.gov/ecp/species/2076</a>	Threatened

## INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## CRUSTACEANS

NAME	STATUS
California Freshwater Shrimp <i>Syncaris pacifica</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/7903">https://ecos.fws.gov/ecp/species/7903</a>	Endangered
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

## **IPAC USER CONTACT INFORMATION**

Agency: Dokken Engineering

Name: Katie Jacobson

Address: 110 Blue Ravine Rd #200

City: Folsom

State: CA

Zip: 95630

Email: [kjacobson@dokkenengineering.com](mailto:kjacobson@dokkenengineering.com)

Phone: 9168449581

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## Appendix B: CNDDDB Species List

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# Selected Elements by Common Name

## California Department of Fish and Wildlife

### California Natural Diversity Database



Query Criteria: Quad</span> IS </span>(Mt. Vaca (3812241))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>American bumble bee</b> <i>Bombus pensylvanicus</i>	IIHYM24260	None	None	G3G4	S2	
<b>Brewer's western flax</b> <i>Hesperolinon breweri</i>	PDLIN01030	None	None	G2	S2	1B.2
<b>foothill yellow-legged frog - north coast DPS</b> <i>Rana boylei</i> pop. 1	AAABH01051	None	None	G3T4	S4	SSC
<b>Keck's checkerbloom</b> <i>Sidalcea keckii</i>	PDMAL110D0	Endangered	None	G2	S2	1B.1
<b>Swainson's hawk</b> <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S4	
<b>valley elderberry longhorn beetle</b> <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T3	S3	
<b>western pond turtle</b> <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
<b>yellow-breasted chat</b> <i>Icteria virens</i>	ABPBX24010	None	None	G5	S4	SSC

Record Count: 8

## Appendix C: CNPS Species List


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Search Results

4 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3812241]

COMMON NAME	▲ SCIENTIFIC		LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE		DATE ADDED	PHOTO
	NAME	FAMILY							PLANT RANK	CA ENDEMIC		
Brewer's western flax	<a href="#"><u>Hesperolinon breweri</u></a>	Linaceae	annual herb	May-Jul	None	None	G2	S2	1B.2	Yes	1974-01-01	 © 2014 Neal Kramer
Napa lomatium	<a href="#"><u>Lomatium repostum</u></a>	Apiaceae	perennial herb	Mar-Jun	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available
Lobb's aquatic buttercup	<a href="#"><u>Ranunculus lobbii</u></a>	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2		1974-01-01	No Photo Available
Keck's checkerbloom	<a href="#"><u>Sidalcea keckii</u></a>	Malvaceae	annual herb	Apr-May(Jun)	FE	None	G2	S2	1B.1	Yes	1974-01-01	No Photo Available

Showing 1 to 4 of 4 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2023. Rare Plant Inventory (online edition, v9.5). Website <https://www.rareplants.cnps.org> [accessed 10 July 2023].



## **Appendix D: NMFS Species List**

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**From:** [Katie Jacobson](#)  
**To:** [Katie Jacobson](#)  
**Date:** Tuesday, July 11, 2023 3:38:00 PM

---

Quad Name Mount Vaca

Quad Number 38122-D1

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - X

SRWR Chinook Salmon ESU (E) - X

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) - X

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - X

Eulachon (T) -

sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -  
ESA Whales

Blue Whale (E) -  
Fin Whale (E) -  
Humpback Whale (E) -  
Southern Resident Killer Whale (E) -  
North Pacific Right Whale (E) -  
Sei Whale (E) -  
Sperm Whale (E) -  
ESA Pinnipeds

Guadalupe Fur Seal (T) -  
Steller Sea Lion Critical Habitat -  
Essential Fish Habitat

Coho EFH -  
Chinook Salmon EFH - X  
Groundfish EFH -  
Coastal Pelagics EFH -  
Highly Migratory Species EFH -  
MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds  
See list at left and consult the NMFS Long Beach office  
562-980-4000

MMPA Cetaceans -  
MMPA Pinnipeds -

## **Appendix E: NRCS Soil Report List**

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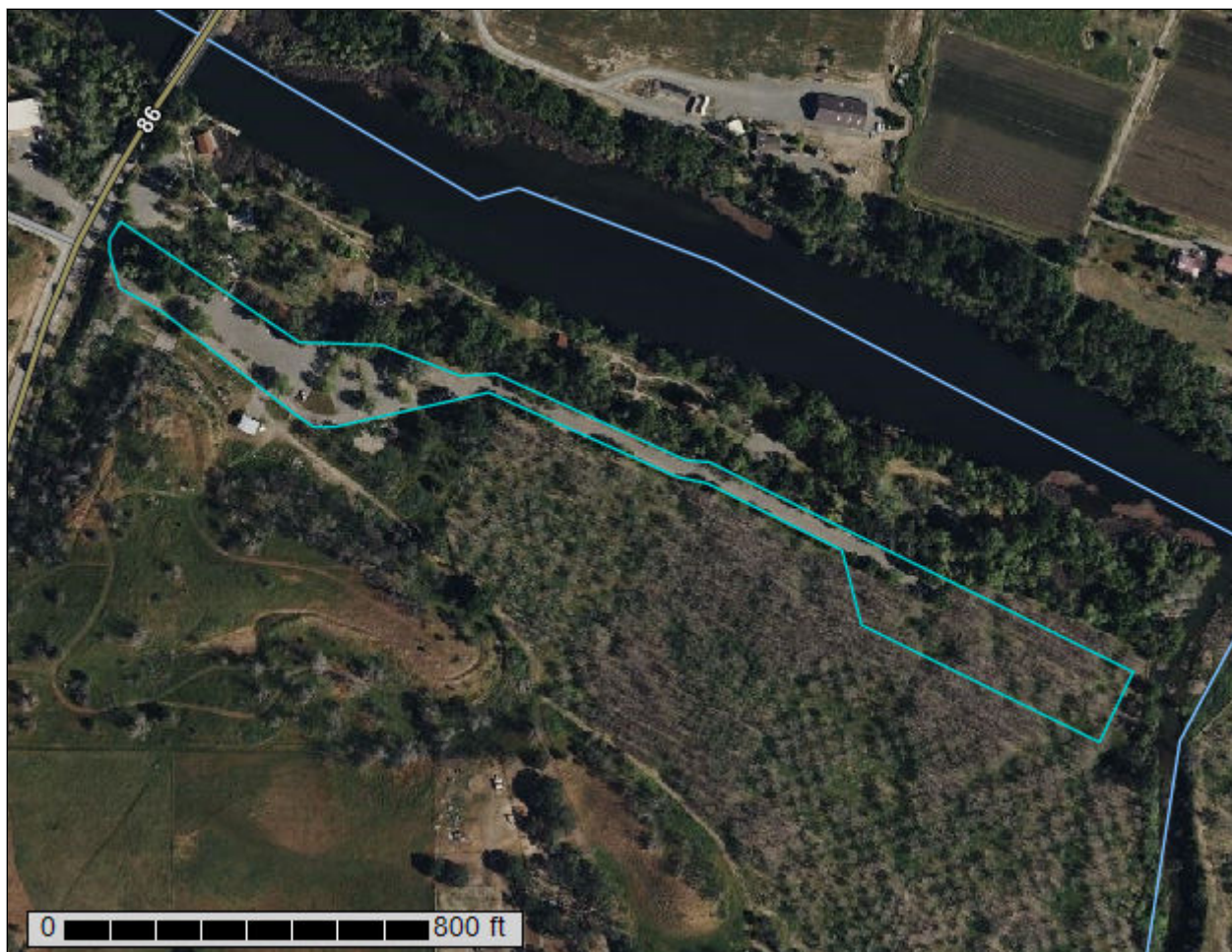
United States  
Department of  
Agriculture

NRCS

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for **Solano County, California**



July 21, 2023

# Preface

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Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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# Soil Map

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The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

# Custom Soil Resource Report Soil Map



# Custom Soil Resource Report

## MAP LEGEND

### Area of Interest (AOI)

 Area of Interest (AOI)

### Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

### Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

### Water Features

 Streams and Canals

### Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL:  
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Solano County, California  
Survey Area Data: Version 17, Sep 1, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 26, 2022—Apr 25, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Rw	Riverwash	0.5	7.5%
Yo	Yolo loam, 0 to 4 percent slopes, MLRA 17	5.6	92.5%
<b>Totals for Area of Interest</b>		<b>6.0</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,



onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Solano County, California

### Rw—Riverwash

#### Map Unit Setting

*National map unit symbol:* h9m7  
*Elevation:* 0 to 150 feet  
*Mean annual precipitation:* 16 to 20 inches  
*Mean annual air temperature:* 57 to 61 degrees F  
*Frost-free period:* 240 to 260 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Riverwash:* 95 percent  
*Minor components:* 5 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Riverwash

##### Setting

*Landform:* Channels  
*Landform position (two-dimensional):* Toeslope  
*Landform position (three-dimensional):* Talf  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Sandy and gravelly alluvium

##### Typical profile

*H1 - 0 to 6 inches:* variable  
*H2 - 6 to 60 inches:* variable

##### Interpretive groups

*Land capability classification (irrigated):* 8w  
*Land capability classification (nonirrigated):* 8w  
*Hydrologic Soil Group:* D  
*Ecological site:* R017XY903CA - Stream Channels and Floodplains  
*Hydric soil rating:* Yes

#### Minor Components

##### Unnamed

*Percent of map unit:* 5 percent  
*Hydric soil rating:* No

### Yo—Yolo loam, 0 to 4 percent slopes, MLRA 17

#### Map Unit Setting

*National map unit symbol:* 2w89p  
*Elevation:* 20 to 370 feet  
*Mean annual precipitation:* 18 to 28 inches

## Custom Soil Resource Report

*Mean annual air temperature:* 61 to 63 degrees F

*Frost-free period:* 240 to 260 days

*Farmland classification:* Prime farmland if irrigated

### Map Unit Composition

*Yolo and similar soils:* 85 percent

*Minor components:* 15 percent

*Estimates are based on observations, descriptions, and transects of the mapunit.*

### Description of Yolo

#### Setting

*Landform:* Alluvial fans

*Landform position (two-dimensional):* Toeslope

*Landform position (three-dimensional):* Tread

*Down-slope shape:* Linear

*Across-slope shape:* Linear

*Parent material:* Alluvium derived from metamorphic and sedimentary rock

#### Typical profile

*Ap - 0 to 9 inches:* loam

*A1 - 9 to 18 inches:* loam

*A2 - 18 to 28 inches:* loam

*Bw1 - 28 to 36 inches:* loam

*Bw2 - 36 to 44 inches:* loam

*Bw3 - 44 to 60 inches:* loam

#### Properties and qualities

*Slope:* 0 to 4 percent

*Depth to restrictive feature:* More than 80 inches

*Drainage class:* Well drained

*Runoff class:* Low

*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high  
(0.60 to 2.00 in/hr)

*Depth to water table:* More than 80 inches

*Frequency of flooding:* Rare

*Frequency of ponding:* None

*Maximum salinity:* Nonsaline (0.3 to 0.5 mmhos/cm)

*Sodium adsorption ratio, maximum:* 1.0

*Available water supply, 0 to 60 inches:* High (about 10.8 inches)

#### Interpretive groups

*Land capability classification (irrigated):* 1

*Land capability classification (nonirrigated):* 4c

*Hydrologic Soil Group:* B

*Ecological site:* R017XY904CA - Subirrigated Deep Alluvial Fans

*Hydric soil rating:* No

### Minor Components

#### Reiff

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

#### Brentwood

*Percent of map unit:* 5 percent

*Hydric soil rating:* No

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### **Sycamore**

*Percent of map unit: 5 percent*

*Hydric soil rating: No*

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## Appendix F: Representative Photographs

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**Photo 1.** Representative photograph of the urban land cover present within the Project area. Staging would occur within the Lake Solano County Park parking lot directly north of the proposed pipeline (Google Earth; March 2019).



**Photo 2.** Representative photograph of the English walnut orchard within the Project area, facing northwest. No natural habitat communities occur in the Project area (July 2023).

## **Appendix B      Native American Outreach Log**

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**Native American Consultation Log**  
**QUAIL CANYON IMPROVEMENT PROJECT**

Affiliation	Name	Contact Date	Contact Type	Response/Information
Yocha Dehe Wintun Nation	Yvonne Perkins, THPO, Cultural Resources Chairperson	10/30/2023	Email	See response below for Hernandez
	Anthony Roberts, Chairperson	10/30/2023	Email	See response below for Hernandez
	Eric Hernandez, Tribal Secretary	11/13/2023	Email	Mr. Hernandez responded to the email sent to Ms. Perkins and stated the tribe requests monitors be present during the testing investigation.
		12/4/2023	Email	Dokken Engineering provided the Tribe with a proposed testing exhibit and coordinated with the Tribal for monitoring.
		2/5/2024	Email	The final Cultural Resource Inventory Report was transmitted to the Tribe
Confederated Villages of Lisjan Nation	Corrina Gould, Tribal Chair	10/30/2023	Email	Initial notification letter
		10/30/2023	Email	Ms. Gould requested a copy of the final CHRIS and EIR for the project along with any additional archaeological reports and the SLF.
		11/16/2023	Email	Ms. Campbell confirmed the reception of the request and attached the NAHC letter and notified them of the proposed XPI testing scheduled for 12/12/2023 and that a Yocha Dehe Wintun Nation monitor will be present for the XPI.
		11/21/2023	Email	Ms. Gould replied and stated that the tribe has no further information to supply at this time and if any findings occur during the XPI they wish to be notified.
		2/5/2024	Email	The Cultural Resources Inventory Report was transmitted to the Tribe

## Appendix C      FEMA Firmette Map

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# National Flood Hazard Layer FIRMMette



122°2'W 38°29'41"N



1:6,000

122°1'22"W 38°29'13"N

Basemap Imagery Source: USGS National Map 2023

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/13/2024 at 2:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.